ENGINEERING NEWS-RECORD

- [illegible]
- Large pipe laid like submarine cable p. [illegible]

Keeping them rolling keeps contractor ahead *p. 33*

E B POWER GS
UNIVERSITY MICROFILMS I
313 N 1 ST
ANN ARBOR MICH

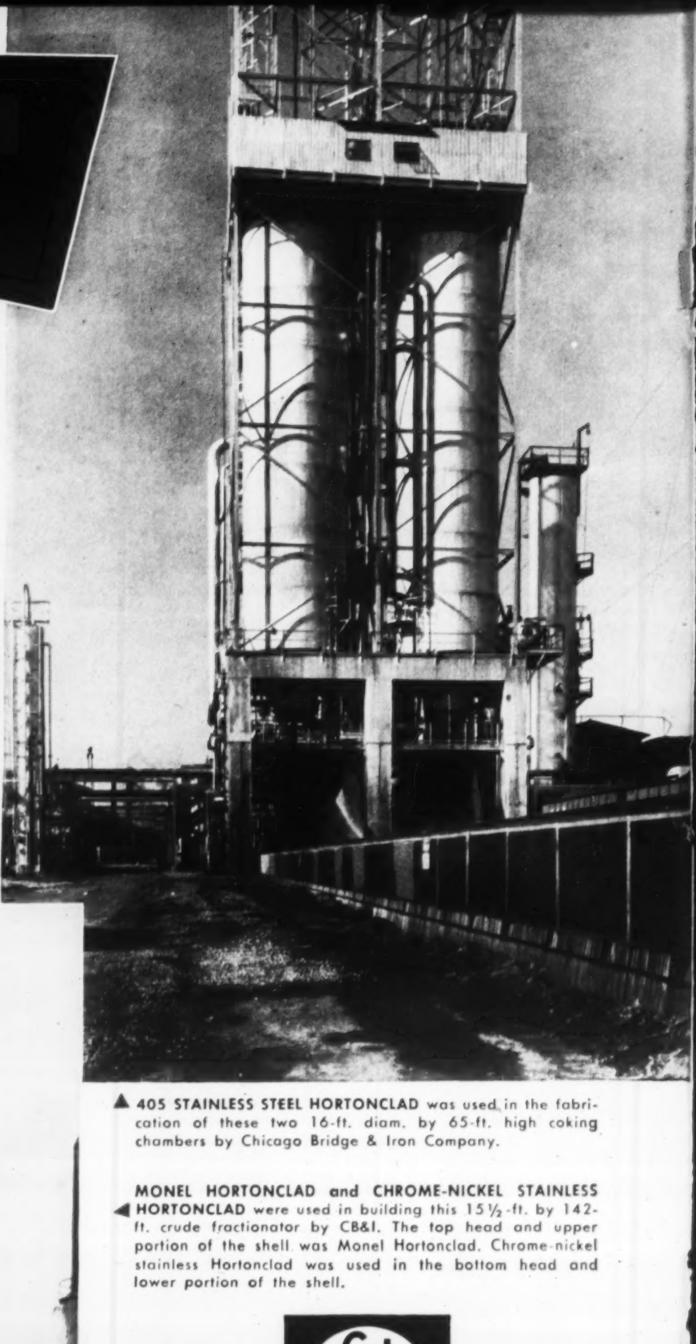
A McGRAW-HILL PUBLICATION

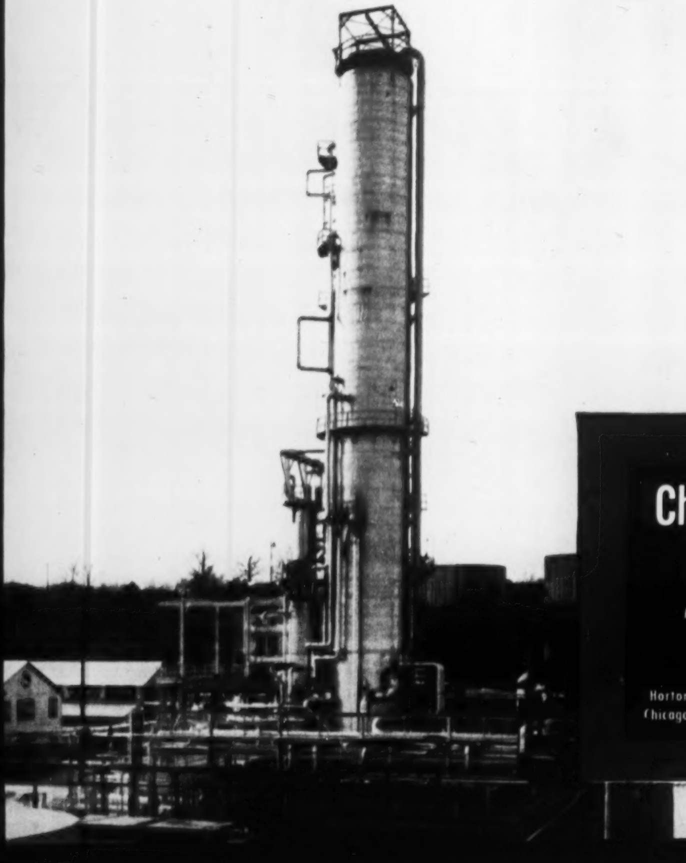
HORTONCLAD
and CB&I Vessels

Hortonclad Plates Utilized in fabrication of crude fractionator and coking chambers

Hortonclad®, a composite corrosion-resistant metal having an integral and continuous bond produced by a high vacuum brazing process, was used in the fabrication of the two process vessels shown here, built by CB&I.

Hortonclad, available only with CB&I storage and process vessels, may be had in silver, nickel, Monel, Inconel, Hastelloy, stainless steels (both chromium and chromium-nickel) and a wide variety of other metals and alloys. Further information on its use with CB&I vessels may be obtained by writing our nearest office.





▲ **405 STAINLESS STEEL HORTONCLAD** was used in the fabrication of these two 16-ft. diam. by 65-ft. high coking chambers by Chicago Bridge & Iron Company.

◀ **MONEL HORTONCLAD and CHROME-NICKEL STAINLESS HORTONCLAD** were used in building this 15½-ft. by 142-ft. crude fractionator by CB&I. The top head and upper portion of the shell was Monel Hortonclad. Chrome-nickel stainless Hortonclad was used in the bottom head and lower portion of the shell.

CB&I

Chicago Bridge & Iron Company

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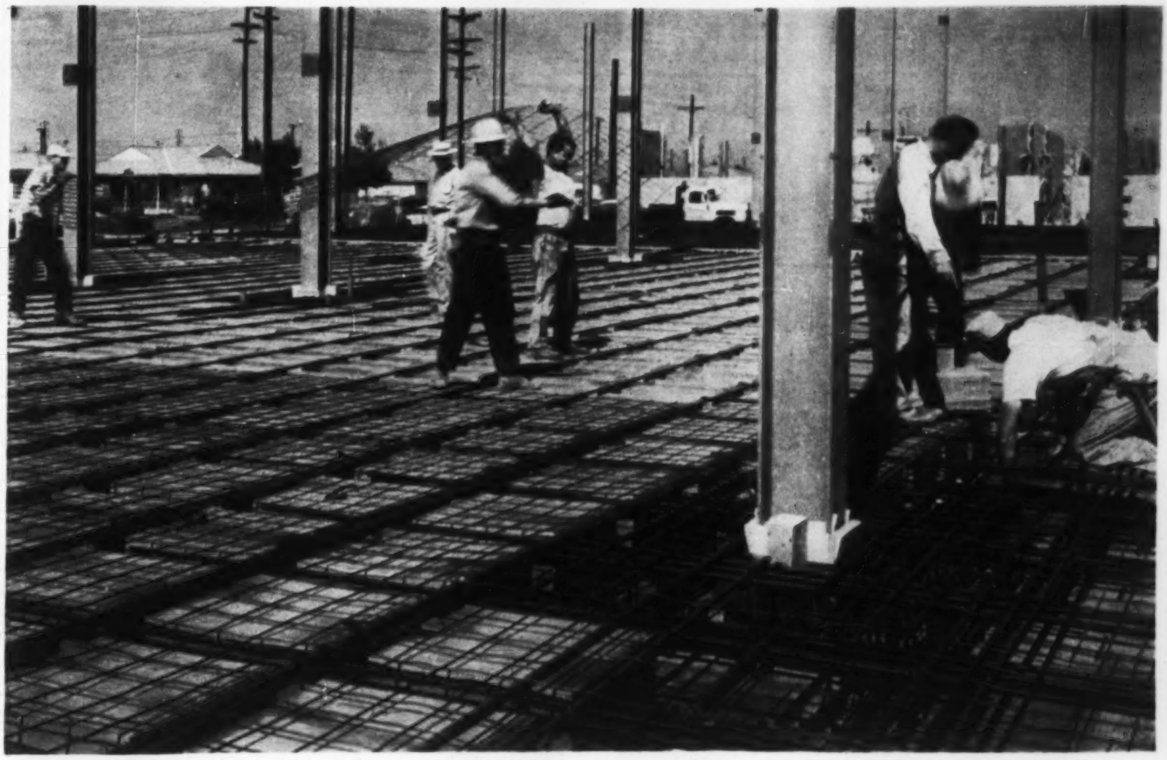
San Francisco • Seattle • South Pasadena • Tulsa
Plants in BIRMINGHAM, CHICAGO, SALT LAKE CITY and GREENVILLE, PA.

REPRESENTATIVES AND LICENSEES:
Australia, England, France, Germany, Italy, Japan, Netherlands, Scotland

SUBSIDIARIES:
Horton Steel Works Limited, Toronto, Chicago Bridge & Iron Company Ltd., Caracas;
Chicago Bridge Limited, London, Sociedade Chibridge de Construcoes Ltda., Rio de Janeiro.



Steel Bars maintain rigidity of floor slab while "Waffle Iron" pattern cuts deadweight

One of the largest lift-slab construction jobs in California—275,000 sq ft—has been completed at the new Lakewood High School at Lakewood City near Long Beach.

As shown in the picture above, special cardboard boxes were first laid in the form. Over these Bethlehem steel reinforcing bars were placed. When the section was cast and hydraulically lifted into position, the boxes were removed, leaving a "waffle iron" pattern on the underside. This process substantially cut down on the deadweight, but the desired slab strength was maintained by the reinforcing steel.

Plans called for slabs to be cast in reverse order of their erection. The roof slab was raised first and the second-level floor deck next. The slabs were jacked up along Bethlehem wide flange sections, which will also serve as permanent supports for the completed structure.

Bethlehem is well equipped to give excellent service in furnishing reinforcing bars. Bethlehem Bars are made from new-billet steel to ASTM Specifications A-15 and A-305 in the conventional sizes. They reach the job site bundled and tagged, with bar lists included.

Architect for the Lakewood High School was Hugh Gibbs, of Long Beach, Calif. *General contractor:* Gust K. Newburg Construction Co. *Reinforcing contractor:* Rutherford and Skoubye, of Los Angeles.

TEN BETHLEHEM BAR FABRICATING SHOPS TO SERVE YOU

Boston • New York • Philadelphia • Johnstown, Pa. • Baltimore
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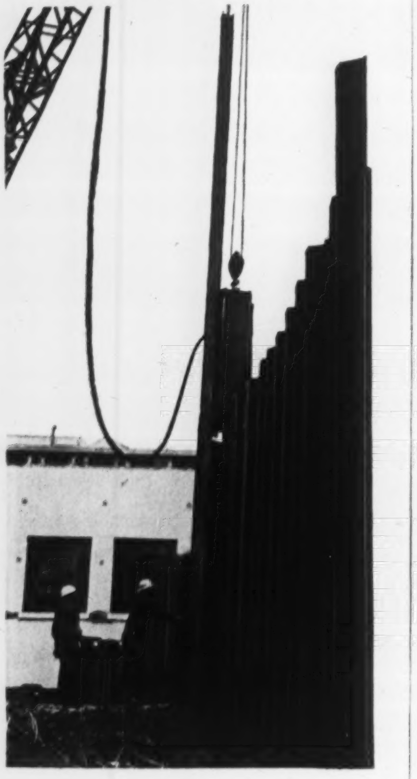
At 3 P.M....

CAVE-IN!



Cave-ins will happen, through no fault of the contractor. On this excavation job, there was erratic soil behavior, shifting loads, saturating rain . . . everything unpredictable.

When it happened, L. B. Foster Co. was called at 3 P.M. for rental steel-sheet piling *in a rush*. We cut MP-116 piling in our yard, and delivered it in Foster trucks to the job site 400 miles away before the crews started work next morning.

This is typical of the dependable help contractors can expect . . . and get . . . with Foster's Piling Rental Plan. Always the exact length and exact section . . . when you need it . . . on low fixed cost. Call your nearest Foster office for quotations—find out for yourself the real savings in Renting Piling from Foster.

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The NEW cedarapids bituminous paver

introduces an entirely new concept in bituminous paving

Imagine a bituminous paver *with an electric vibrating* screed and a *controlled vibration intensity* that not only compacts bituminous mix into a smooth, uniform high-density mat, without segregation . . . but is setting new records for high-speed, high-capacity paving!

Imagine a bituminous paver that has *placed material from ten 14-ton trucks in 15 minutes* . . . that can hit paving speeds up to 102 ft. per minute . . . with the finished pavement free of voids or tears in the mat, and testing as good as pavement laid at much slower speed!

Imagine a machine so simple in design and so ruggedly built that a test model operated for 935 hours, over 385 miles, *with practically no mechanical difficulties,* and showing very little wear!

THAT'S THE NEW CONCEPT IN BITUMINOUS PAVING . . . achieved with the many new and different design features of the all-new Cedarapids Bituminous Paver.

HERE'S HOW YOU PROFIT WITH THIS NEW, DIFFERENT PAVER

Greater Speed and Capacity

Tests have proved that the paving speed and capacity of the new Cedarapids Bituminous Paver are generally limited only by the output of the mixing plant, truck movement, or the ability of the rolling equipment to keep up. Paving speeds range up to 102 FPM. Rapid vibration of the screed assures maximum density at any paving speed, without tearing the mat or creating voids. Capacity is conservatively rated in excess of 200 tons per hour.

Simplified for Lowest Maintenance

Simplified design means more "go" time and less down time. A number of troublesome chains, drive shafts and universals have been eliminated. This reduces the number of wearing parts and mechanical drive linkages required. See the table for comparison with other leading pavers!

	Chains	V-belts and drives
Cedarapids Paver	6	2 belts with 1 drive
Paver A	15	5 belts with 5 drives
Paver B	12	10 belts with 4 drives
Paver C	17	9 belts with 3 drives

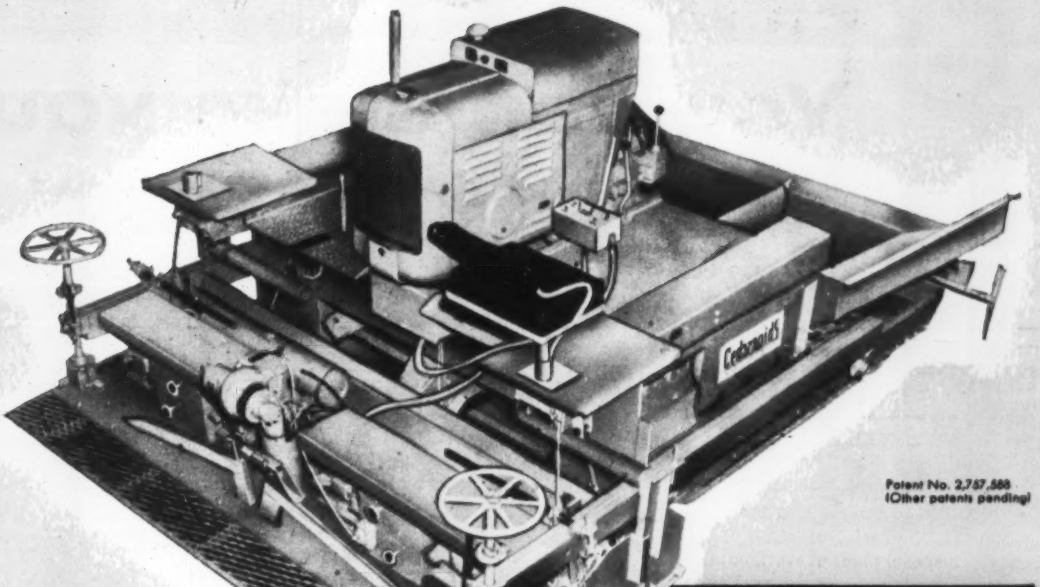
Assures Better Quality Pavement

The new Cedarapids Paver meets the most rigid specification demands of the Federal Highway Program. On turnpike tests, inspectors found paving mixes spread by this machine to be uniform as to density, surface texture and desired thickness. Careful examination of dozens of density samples from unrolled areas of both binder and surface course revealed no segregation . . neither open textured areas where coarse aggregate predominated, nor segregation by particle size.

Automatic depth controls assure the proper amount of material in front of the screed at all times with no attention from the operator . . . an important feature for preventing voids when paving at high speed. Steering is easy. Long screed support arms pivot well forward on the Paver, with a ball joint connection which allows minor side movement of the screed to assure straight mat edges and even joints on the straight-away as well as on curves. The long screed arms and long crawler base provide maximum screed floating action to minimize irregularities in the subgrade.

These exclusive Cedarapids design features result in highest quality pavement, with the riding quality demanded by safety for today's high speed travel.

These pavement cross sections are typical random samples cut from both binder and surface courses of the Kansas Turnpike. Such uniform distribution of coarse and fine aggregate is typical of pavement laid with the new Cedarapids Bituminous Paver.



Patent No. 2,757,588
(Other patents pending)

TESTED AND PROVED
ON THE KANSAS TURNPIKE

This Cedarapids Paver was used by Reno Construction Company to lay 130,000 tons in a little over two months on the Kansas Turnpike. Operating day and night, the Paver laid 3,475 tons, or all the mixing plant could supply, in one 16-hour period. Note the relaxation of the operator. Finger-tip operation, with no foot controls, adds to the Paver's easy handling.

HERE ARE A FEW OF OVER 40 NEW FEATURES

- **Four individually controlled, electrically driven vibrators deliver 3,600 impulses per minute to screed.**
- **Automatic feed conveyors and spreading screws.**
- **Completely self-cleaning track-type crawlers reduce maintenance, prevent screed-disturbing build-up of material.**
- **Big hopper handles up to 9 tons of material.**
- **Paving widths easily adjusted . . . no tamper or cut-off bar to consider.**
- **Electric clutches and brakes minimize wear.**

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MANUFACTURING COMPANY
Cedar Rapids, Iowa, U. S. A.

Cedarapids
Built by IOWA

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Gentlemen: Please send Bulletin PAV-1 and further details of your new Bituminous Paver.

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You can stake your

River crossing of cast iron pipe line to carry sewage to disposal plant at Portland, Oregon.

Cast iron pipe for large automobile assembly plant in New Jersey.

Whether you select a man or a product, you judge dependability on the record.

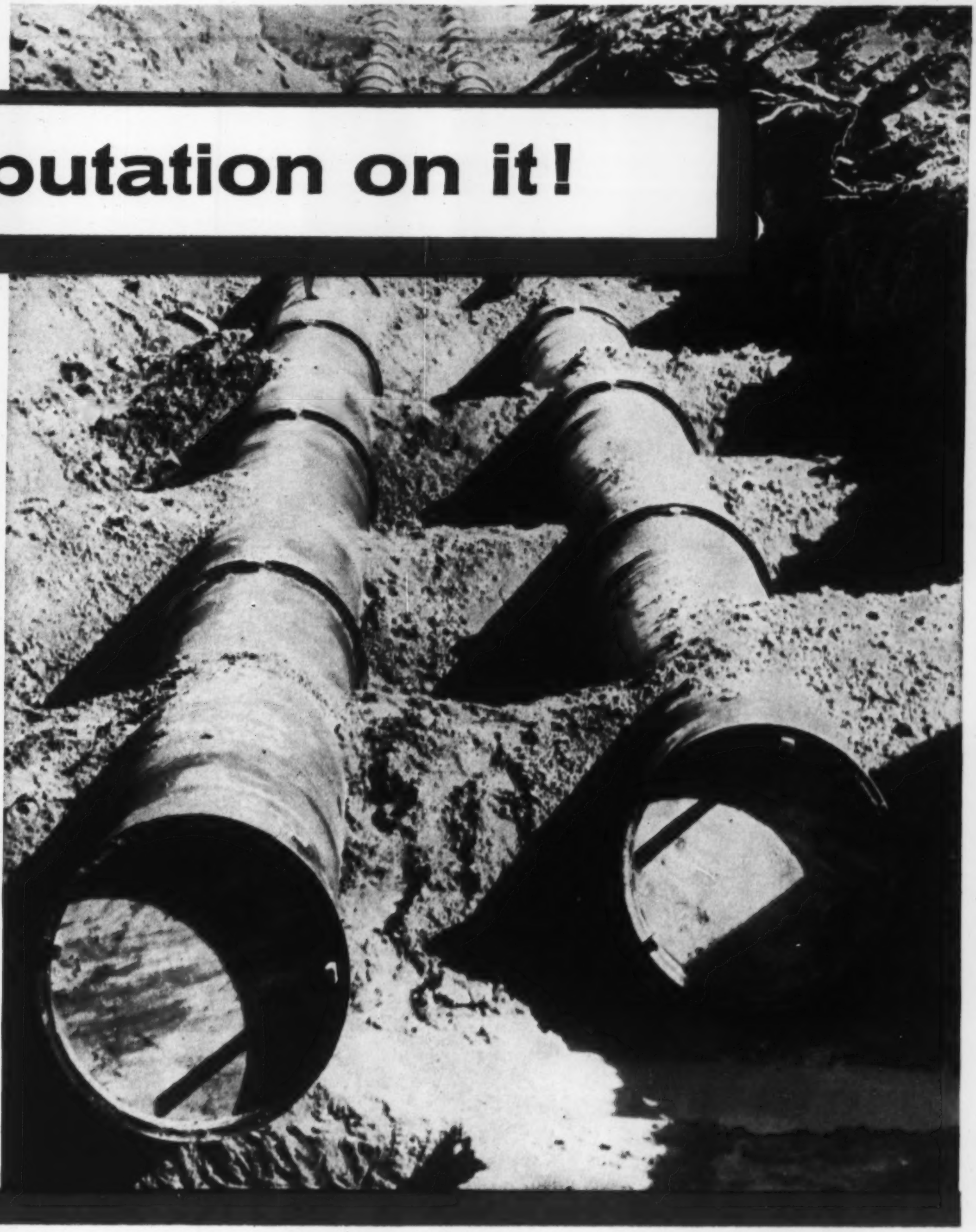
Cast iron pipe's record is unmatched. Proof? Today nearly seventy cities are still using cast iron mains that have been in continuous use for a hundred years and more!

More important, the *modernized* cast iron pipe now being produced is even tougher, stronger . . . more reliable and efficient.

Specify cast iron pipe and you assure the long life, dependability and economy that protect *your* reputation.

CAST IRON PIPE

reputation on it!



Installing large diameter cast iron pipe lines supplying water to synthetic fibre plant in South Carolina.

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For further information write: Cast Iron Pipe Research Association,
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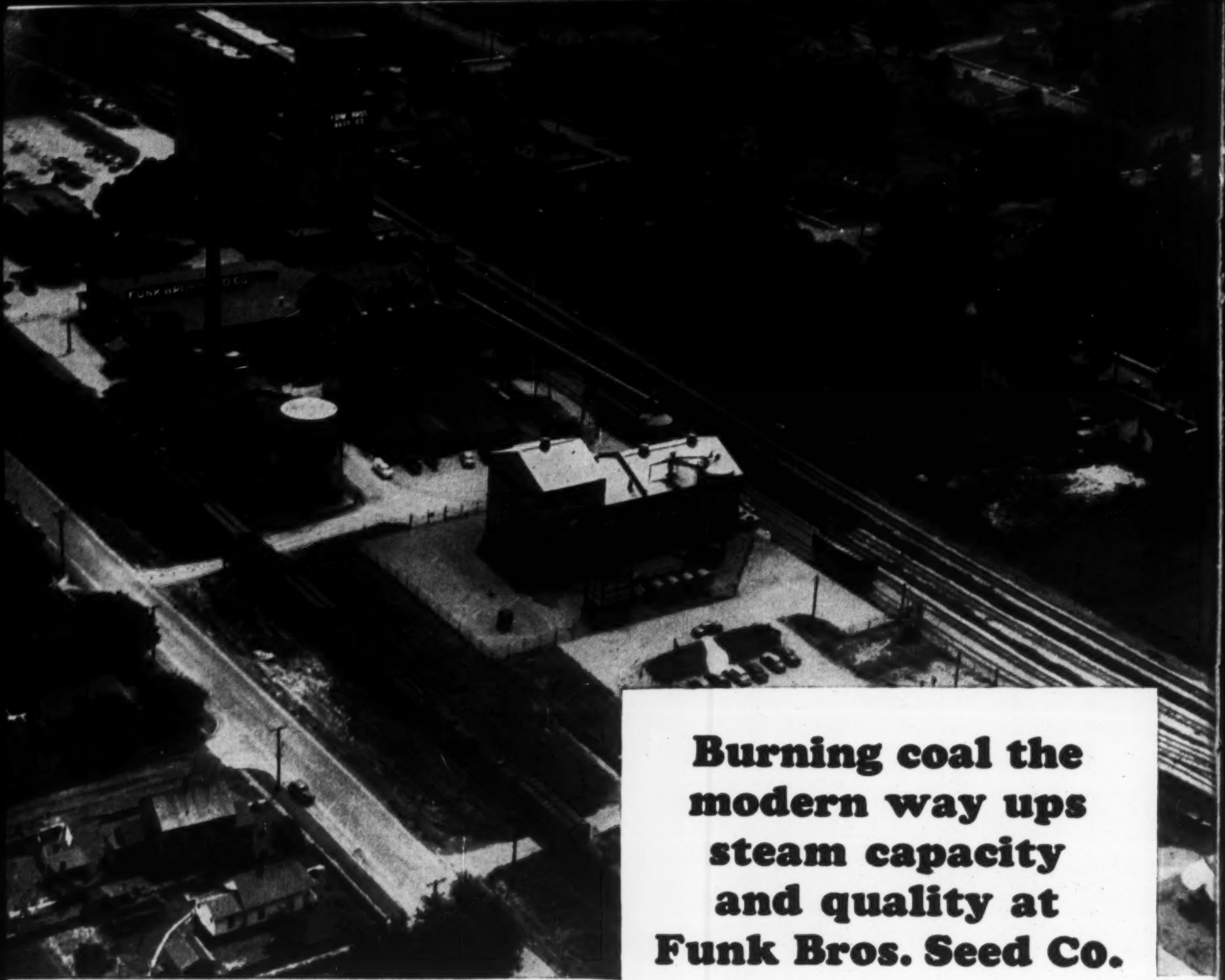

Burning coal the modern way ups steam capacity and quality at Funk Bros. Seed Co.

Consult an engineering firm

Designing and building hundreds of heating and power installations a year, qualified engineering firms can bring you the latest knowledge of fuel costs and equipment. If you are planning the construction of new heating or power facilities—or the remodeling of an existing installation—one of these concerns will work closely with your own engineering department to effect substantial savings not only in efficiency but in fuel economy over the years.

facts you should know about coal

In most industrial areas, bituminous coal is the lowest-cost fuel available • Up-to-date coal burning equipment can give you 10% to 40% more steam per dollar • Automatic coal and ash handling systems can cut your labor cost to a minimum. Coal is the safest fuel to store and use • No smoke or dust problems when coal is burned with modern equipment • Between America's vast coal reserves and mechanized coal production methods, you can count on coal being plentiful and its price remaining stable.

As Funk Bros. Seed Co., Bloomington, Ill., increased the capacity of its soybean extraction plant 50%, the firm's old steam plant proved inadequate. Not only was it unable to produce enough steam, but steam quality was not suitable for best processing conditions. To remedy this situation, the company installed a new 26,000 lbs./hr. boiler, automatic controls, automatic coal and ash handling system and related equipment.

Today the steam plant at Funk Bros. requires only one man per shift, holding one of the most attractive operating jobs in the plant. Evaporation rates are in excess of 9 lbs. of steam per lb. of coal and there is adequate high quality steam for further expansion requirements. Also cleaner plant conditions resulting from this modernization have greatly improved community relations.

For further information or additional case histories showing how other plants have saved money burning coal, write to the address below.

BITUMINOUS COAL INSTITUTE
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PITT CHEM 104 PROTECTS INTERIORS OF 3 1/3 MILLION GAL. POTABLE WATER TANKS

Tanks erected by Consolidated Western Steel Co.
Coating applied by Peter W. Murtes & Co.

THE New Orleans Sewerage and Water Board, investigating the problem of protecting the interiors of six new 3-1/3 million gallon water tanks, decided upon *Pitt Chem* 104 Coal Tar Coating for the job.

Pitt Chem 104 coating was selected because it is specifically formulated to protect potable water tanks and transmission equipment without imparting taste or odor to water. It dries to touch in less than an hour and has a high gloss finish that is unaffected by moisture or mildly corrosive vapors.

Whether *your* problem is to protect equipment against water, sewage or industrial corrosion, there's a good chance you'll find the most practical and economical answer in the broad family of *Pitt Chem* Tar Base Coatings. They are easy to apply and provide a film up to ten times as thick as ordinary paint. *No other material does such a complete job of protection at so little cost.* ● We'll gladly offer recommendations for your specific problem. *Call today!*

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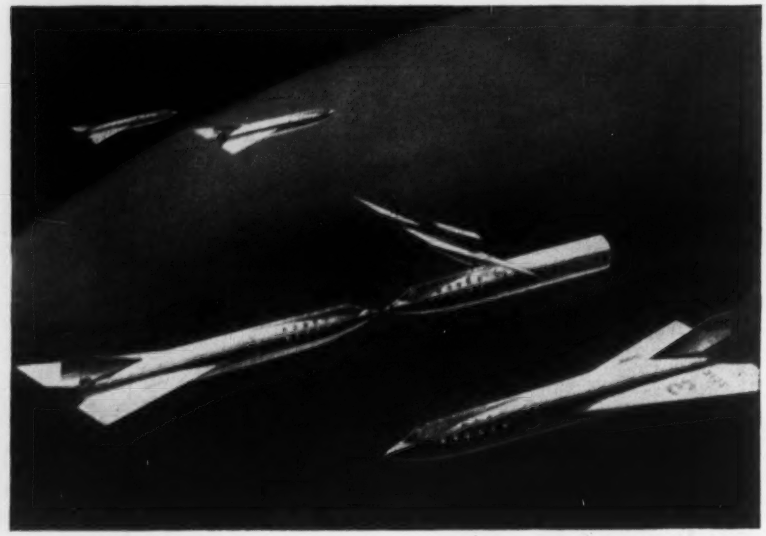


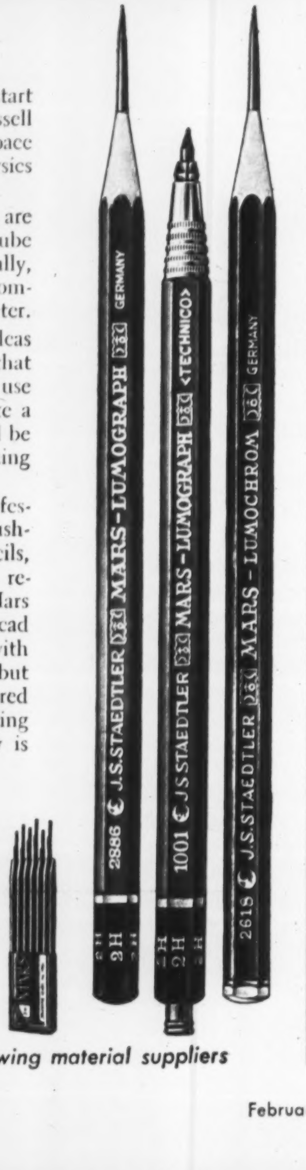
birth of a satellite

Most new ideas, like this inhabited satellite, start out as drawings on a sheet of paper. Here artist Russell Lehmann shows the first step in building the space station proposed by Darrell C. Romick, aerophysics engineer at Goodyear Aircraft.

Two ferry ships, one stripped of rocket units, are joined end to end. As others are added, this long tube forms temporary living quarters for crews. Eventually, outer shell will be built around core, making completed station 3,000 feet long, 1,500 feet in diameter.

No one can be sure which of today's bright ideas will become reality tomorrow. But it is certain that in the future, as today, it will be important to use the best of tools when pencil and paper translate a dream into a project. And then, as now, there will be no finer tool than Mars — from sketch to working drawing.

Mars has long been the standard of professionals. To the famous line of Mars-Technico push-button holders and leads, Mars-Lumograph pencils, and Tradition-Aquarell painting pencils, have recently been added these new products: the Mars Pocket-Technico for field use; the efficient Mars lead sharpener and "Draftsman's" Pencil Sharpener with the adjustable point-length feature; and — last but not least — the Mars-Lumochrom, the new colored *drafting* pencil which offers revolutionary drafting advantages. The fact that it blueprints perfectly is just one of its many important features.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The 2886 Mars-Lumograph drawing pencil, 19 degrees, EXEXB to 9H. The 1001 Mars-Technico push-button lead holder. 1904 Mars-Lumograph imported leads, 18 degrees, EXB to 9H. Mars-Lumochrom colored *drafting* pencil, 24 colors.

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at all good engineering and drawing material suppliers

Reader Comment

Share This Complaint

Sir—We are continually encountering a problem that could be very easily solved. However, it seems as though the only way to get the necessary action required to solve this particular problem is to induce other engineers to voice their complaints.

The problem is simply this. In the course of our work we are required frequently to move or install new and existing motors, pumps, generators and compressors. In order to properly move and install these machines it is imperative to know their weight. This, however, is hard to find! If it is a new piece of equipment, the information is usually not available.

All of these machines have nameplates with useful data, such as voltage, horsepower, speed, etc. Why not weight? The weight is always known by the manufacturer in the course of its design. It would take very little more to place this information on the nameplates. This little action would endear the manufacturer to the plant engineers, riggers, and designers, all of whom have to worry about floor loading, crane loads, slings, etc.

J. H. Krepchin
Silver Spring, Md.

Laterals Now, Trunks Later

Sir—The report entitled "Laterals Now, Trunks Later" in ENR Jan. 17 p. 46 points out a very serious problem which has been of concern to the FHA for many years. Ten years ago we adopted the policy of refusing to consider septic tank systems or cesspools for subdivisions where the construction of public or community sewerage systems is feasible. Through these years we have, time and again, insisted on sewers in ever increasing numbers of subdivisions. Articles such as yours are very helpful to all levels of government confronted with this problem.

In an effort to solve the plant operating problem which arose from our insistence on community systems, our legal staff devised a trust deed which,

Engineering News-Record welcomes expression of opinions from its readers. Comment should be as brief as possible and pertinent to subjects of current construction importance. Letters should be addressed Editor, Engineering News-Record, 330 W. 42nd St., New York 36, N. Y.

Strength, Color and Workability of Atlas Mortar are features that pleased Contractor L. A. Swyer of Albany, N. Y., on Dormitory Building job (above) at Rensselaer Polytechnical Inst., Troy, N. Y. Clean, modern design is work of Architect Henry L. Blatner, Albany.

For enduring beauty on your next project be sure to specify ATLAS* MORTAR Cement

- Durable, weather-resistant joints for all types of masonry begin with good workability in the mortar.
- With Atlas Mortar you get a smooth, workable mix and weatherproof joints that resist freezing-thawing weather.
- Atlas Mortar is quality-controlled during manufacture to insure uniform performance on the job. (Complies with ASTM and Federal Specifications.)

For further information, write Universal Atlas, 100 Park Avenue, New York 17, N. Y.

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M-62

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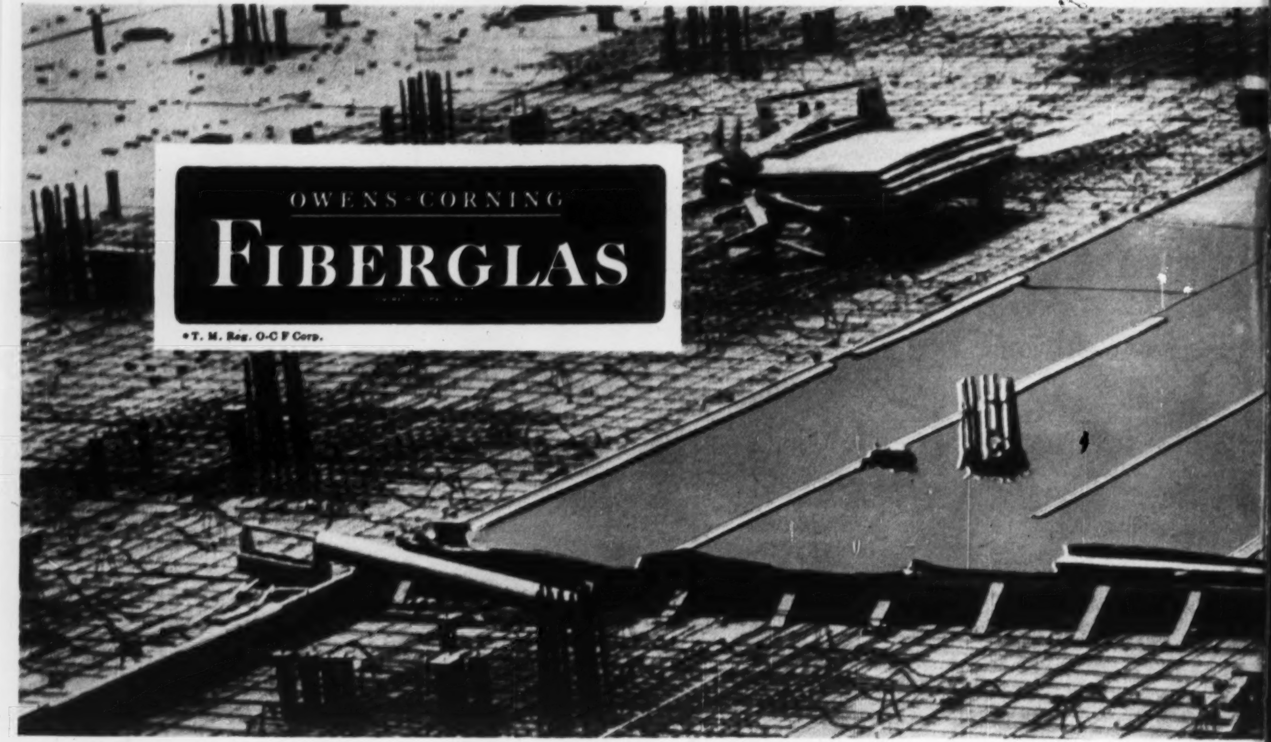
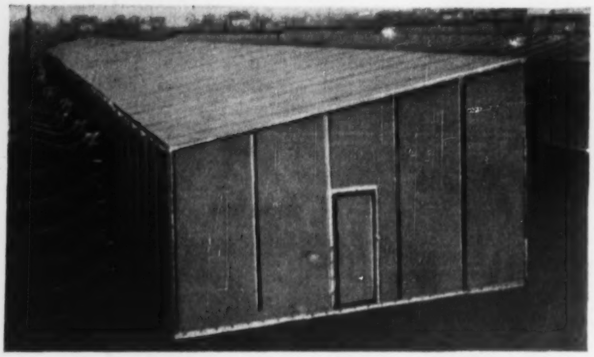


Here and now . . . AN ALL-PURPOSE

Fiberglas-reinforced weatherproof paper gives you a low-cost answer to the problem of positive moisture control



TEMPORARY SHELTERS! Big savings in time, labor and materials are gained here through use of Fiberglas-reinforced weatherproof papers. Such shelters give long, dry service.

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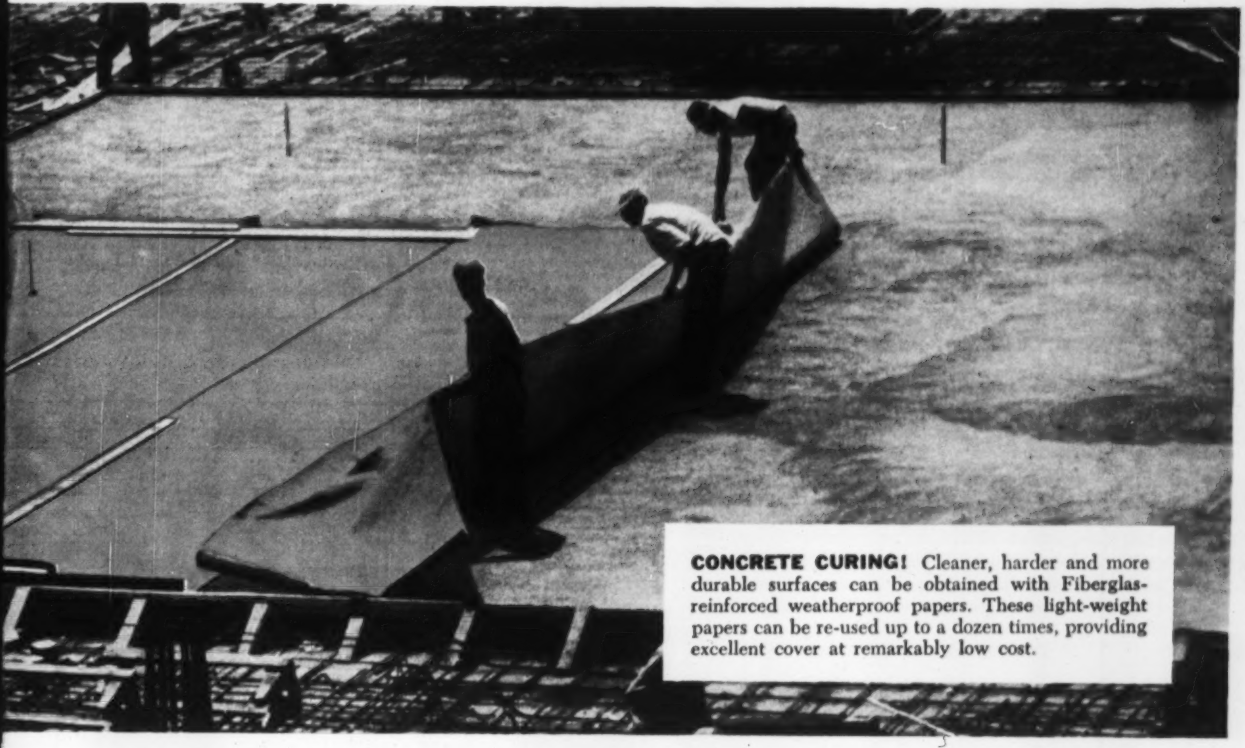

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for many years, has been required by FHA in connection with privately owned systems (water and sewerage) constructed to serve subdivisions in which FHA was interested. I believe the use of this instrument provides machinery whereby a local regulatory authority can see to it that satisfactory operation is provided. It has been used in connection with a great many community systems serving subdivisions in Florida as well as in many other states.

Your continued interest in this problem is a public service.

NEIL A. CONNOR, DIRECTOR
Architectural Standards Division
Federal Housing Administration

Chain Reaction

SIR—If industry were to make anything approaching the contribution to endowed educational institutions recommended by Mr. McGraw, (ENR Jan. 31, p. 55) it would place state institutions on the spot. The result would be to force an increase in their appropriations, so that every dollar contributed by industry would create another half dollar, say, from state governments. Not a bad idea!

DEWEY M. MCCANN, *Head*
Department of Civil Engineering
Mississippi State College

Book Price Corrected

SIR—In your review of Robert W. Abbett's American Civil Engineering Practice (ENR Jan. 17, p. 80), you gave the price as $15 for each of the three volumes. At the moment, the price for Volume 3 (not yet published) is listed at $18, although possibly it might change. I very much doubt, however, that it will come out at less, as the book is about 200 pages longer than Volume 2.

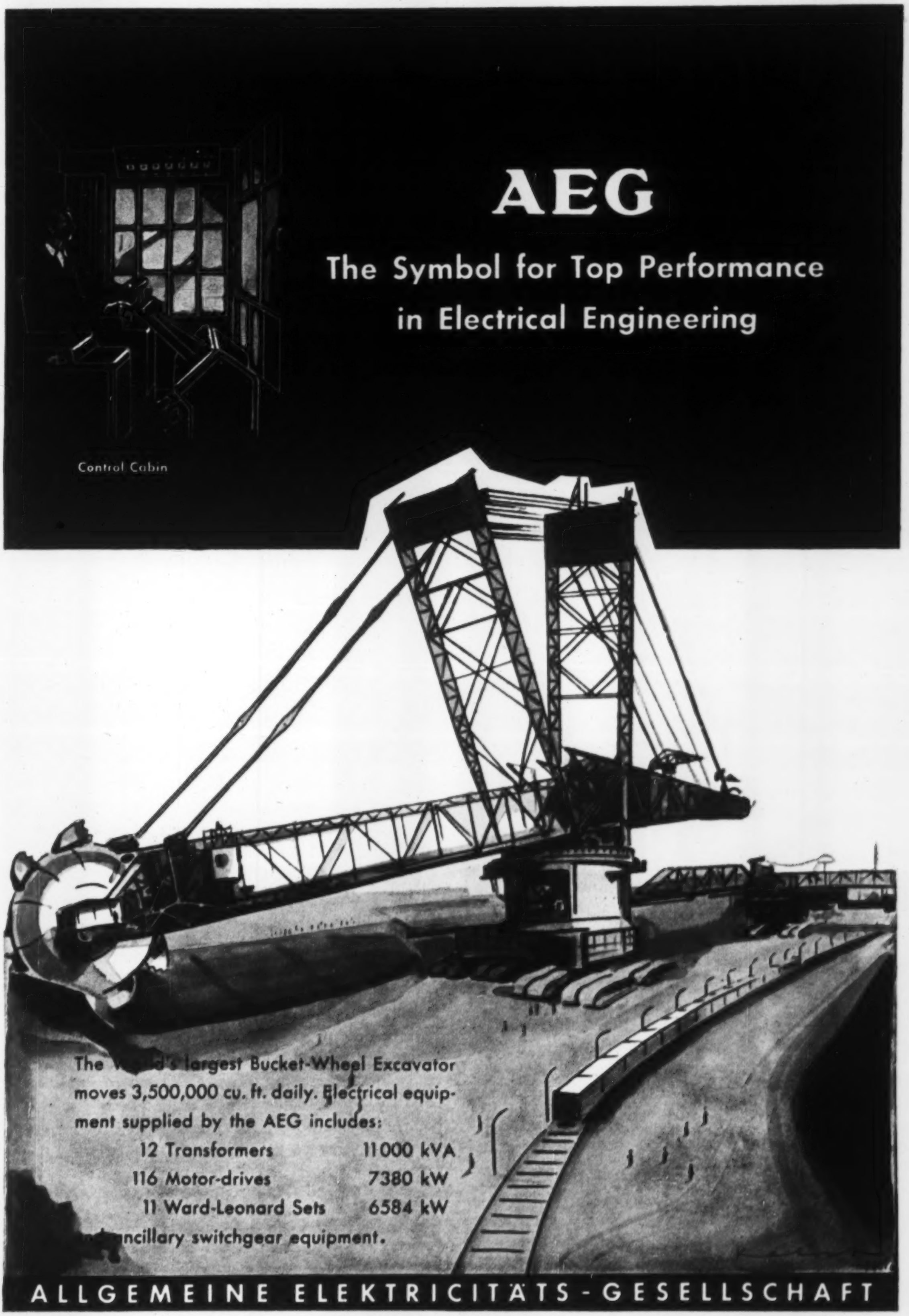
ROSE ORENTE
Publicity Division
John Wiley & Sons, Inc.

CALENDAR

University of Colorado, 20th annual highway engineering conference, University Memorial Center, Boulder, Colo., Feb. 28 and March 1.

American Society of Photogrammetry, American Congress on Surveying and Mapping, Shoreham Hotel, Washington, D. C., March 3-9.

American Railway Engineering Assn., annual meeting, St. Louis, Mo., March 4-6.



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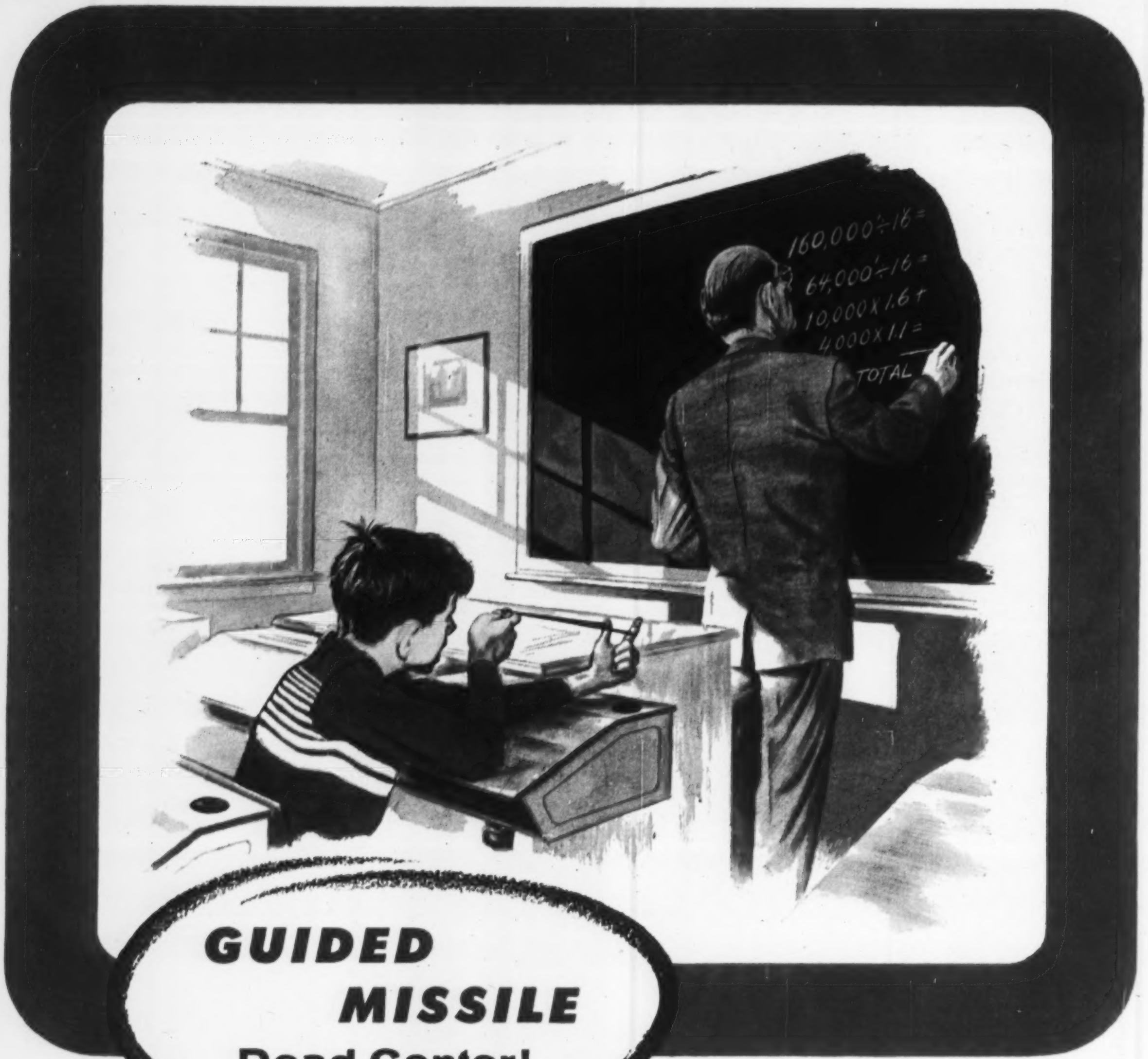

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ENGINEERING NEWS-RECORD

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CONTENTS

NATIONAL AFFAIRS

It's Flood Season for Highway Bills 21
U. S. to Help European Atom Plan 22
Bascule Bridge Span Close to Record 23
The End of Asphalt Mix Confusion 24
State Road Groups Revamped 25
Engineering Dean to Head Turnpike Agency 25
ASCE Convention Foretells New Jobs 26
Weather Drops Tons of Rock on Thruway 27
Water for Industry: The Rules Change 28
Tacoma-Everett Expressway to Start 29
105 ft Platform Will Top TV Tower 29
Waterway Agency Urged for North Carolina 29
Chesapeake Crossing Faces Political Problems 29

FEATURES

One Seaway Contractor Is Staying Ahead 33
Big Pipe Is Laid Like Submarine Cable 34
Two Bases for Biggest Strategic Bombers 40
Showcase for Steel Curtain Walls 49

INTERNATIONAL

Span Sets Canadian Plate-Girder Record 55
Canada Helps Two Asian Projects 55
31 Level Hotel Rises in Havana 56

NEW PRODUCTS

Tetrapod Forms now on Market 63

MEN AND JOBS

Asphalt Engineer Takes News Spotlight 66
AEC Office Gets Technical Advisors 66
New Structural Chief for Standards Bureau 67

BUSINESS AND FINANCE

Lease-Purchase: Sick but Not Dead—Yet 94
School Package Includes Financing 96
Capehart Housing Planned for West 98
Construction Markets: Trenton 98

LABOR

Carpenter Demands Alarm Builders 101
NLRB Refuses to Grant Immunity 101
Right-to-Work Ordinance Is Unenforceable 102
No Canadian Labor Ban for St. Lawrence Jobs 102
Rackets Probe Embraces Construction Industry 106

Reader Comment 10
Calendar 14
Washington Observer 19
Obituaries 70
Unit Prices 72
Materials Prices 74
Construction Reports 78
Scoreboard 93
Editorials 120

Back issues of ENGINEERING NEWS-RECORD *are generally available for the previous six months. Price 35¢ each copy except Annual Cost Issue. Semi-annual indexes will be sent on request.* ENGINEERING NEWS-RECORD *is also indexed in Industrial Arts Index and Engineering Index.*

THE CONSTRUCTION WEEK

VARIATIONS IN CEMENT QUALITY—The National Ready Mixed Concrete Association may request the American Society for Testing Materials to revise the standard specification for portland cement to incorporate suitable limitations on uniformity. At the 27th Annual Convention of NRMCA, Stanton Walker and Delmar L. Bloem reported that tests showed lack of uniformity in strength-producing properties of portland cement in different shipments from the same source, as well as in cements from different manufacturers.

PEDESTRIANS PAY PENALTY—Philadelphia pedestrians will find jaywalking costly, and bicyclists will find themselves considered as motorists, under new city traffic codes.

Pedestrians are liable for $3 fines for crossing streets at other than designated intersections or walkways on any streets where traffic is controlled by traffic signals. Bicycles are considered to be motor vehicles, and subject to all rules of the road. And "persons on roller skates, sleds, coaster wagons and toy vehicles" are prohibited from using the streets at all—except to cross them.

NEARING FINISH—Best indicators of the rapid progress on New Orleans' new Mississippi River Bridge are two contracts let recently for $743,250 for electrical work on the structure and its approaches. Bids still to come will cover toll booths, an administration building, a traffic interchange, and paving.

BRIDGE SPECS TO BE REVISED—State engineers now have in their hands copies of proposed revisions of the American Association of State Highway Officials bridge specifications. They have until April 1 to submit recommendations. Proposed revisions include a new section on composite design, a change in the section on concrete columns, approval of A373 steel for welding, changes in wind loadings and an alternative to H20-S16 loading (see also p. 26).

WAGE DEMANDS GATHER STEAM—Substantial wage increases are in the making for 75,000 building tradesmen in the Detroit, Mich., area, with cement finishers expected to set the pace with demands for a package increase of 32 cents an hour. Painters, bricklayers, operating engineers, laborers, electrical workers, sheetmetal workers and plumbers indicate they'll follow suit. Several unions, including carpenters, iron workers and teamsters, still have a year to go under existing contracts but are slated to receive deferred increases this spring, ranging up to 15 cents an hour.

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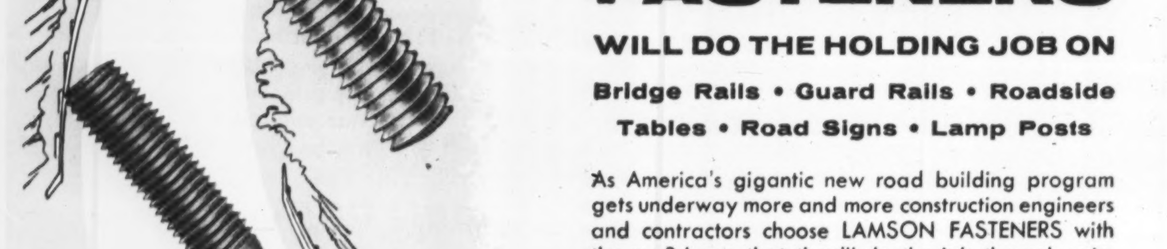
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WASHINGTON OBSERVER

It is becoming doubtful that Congress will vote a school bill. The hearings on the program are moving slowly. It will be June 1 before any kind of legislation will get to the House for a vote. The Senate will do nothing until the House acts.

These are the major obstacles giving concern to pro-school forces.

Integration-segregation—There is no assurance that the Administration will try hard enough to prevent adoption of the Powell Amendment requiring integration of federally supported schools. Adoption of the amendment doomed the legislation last year. Everyone agrees that unless President Eisenhower uses his full powers of persuasion against the rider, the amendment will be voted again. If so, the Senate will pigeonhole the bill.

The formula for grants-in-aid: The Administration wants outlays based on state needs. Big state congressmen want payments based on student population. The fight cuts across party lines, and is a crucial issue.

•

Administration's latest bid for more atomic power plant construction has gotten at least one firm offer from the utility industry. The Atomic Energy Commission a few weeks ago put out a sort of ultimatum: Either private enterprise has to come up with a number of commercial atomic power reactors ready for operation by June 1962—or the government itself will have to build them.

A utility group has promised to build a couple of plants in the Ohio region, costing perhaps as much as $31 million. Two additional ideas have come in from the Pacific Coast—but there, the utility companies aren't yet actually committed to going ahead. However, it's of interest that companies in the heart of the hydroelectric power country are moving toward a foothold in atomic power.

All told, atomic projects totaling some $400 million are in either the construction or planning stage.

•

You can now write to tax officials with ideas on the tax deductions you should be allowed to take each year on your equipment. A committee of tax experts has been appointed by the Treasury Department to review suggestions from businessmen on Bulletin F—the handbook used by Internal Revenue Service officials to decide the tax life of capital equipment. The idea of the revision is to bring the guide-book more into line with the actual useful life of equipment—and to add to the list equipment that's not now included.

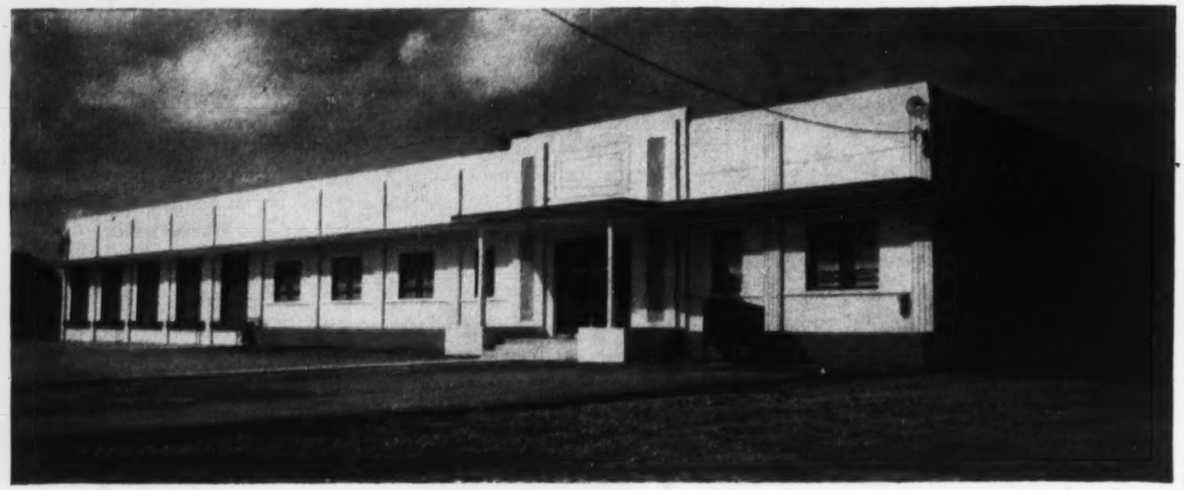
Write your own suggestions to: Commissioner of Internal Revenue, Washington 25, D. C., Attention T:S:EA:F. Revision process will move slowly; final version may not be out before the end of the year.

•

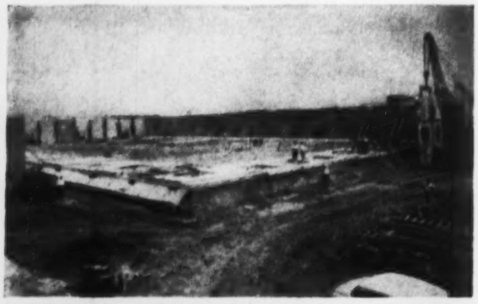
Homebuilders now expect a fairly good year despite the black pessimism that was their theme song as 1956 ended. The National Assn. of Home Builders is now figuring 1957 starts will be 1 million or thereabouts, whereas short months back it was fearful starts would sag to 900,000 or so. Seasonally adjusted, January starts were at 1.01 million.

The real key to '57, however, is VA rates—and a rise is doubtful. Given a rise, the homebuilders say, they could get at least a fair shot at money in today's tight market. The House Veterans Committee will not go along with pleas to raise the VA interest rate to 5%. The FHA picture is brighter. After the year-end hike in rates (to 5%), FHA home applications in January came up to 10,549—a whopping 36% increase over December 1956. VA applications, were down, and homebuilders say the VA program is dead unless interest rates are raised.

Talk About VALUE



Precast, Prestressed 'Incor' Concrete Structural Members in Place for 68¢ per Sq. Ft., in This Prefabricated Concrete Warehouse



● For warehouses, factories, garages and other structures, modern concrete prefabrication substantially increases the building dollar's purchasing power.

This well-designed office and warehouse for Goodyear Tire & Rubber Co., in Jefferson Parish, La., 56,000 sq. ft. area, was erected at $267,500 total cost: Tilt-up wall panels . . . precast, prestressed 'Incor' concrete columns, girders, purlins, roof slabs . . . entrance doorway cast-in-place architectural concrete.

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*Reg. U.S. Pat. Off.

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Proposals in Congress would . . .

- Add further mileage to the interstate system
- Change the administrative setup for the program
- Make sure there are no billboards along the routes

It's Flood Season for Highway Bills

With Congress hardly six weeks in session, a flood of bills has been introduced to amend or implement the 1956 Highway Act.

Principally, they are aimed at getting more road mileage authorized. But such things as billboard restrictions along the interstate system, changes in the administrative setup, and feasibility studies for building heliports at road interchanges are being requested.

After the quick look taken by the Senate last month on progress of the roadbuilding program (ENR Jan. 17, p. 24), no further hearings have been scheduled. But, both the Senate and House have announced intentions of keeping a close check on activity. Primarily, they are waiting for Highway Administrator Bertram D. Tallamy to get settled in office before they start further inspection of the program.

• Added mileage sought—Sure to get full Congressional attention is a move to extend the interstate road mileage. Last year, Congress increased the mileage from 40,000 to 41,000 miles, the additional 1,000 miles to be allocated among the various states by the Bureau of Public Roads.

The bureau expects to announce the new mileage allocations within the next couple of months, but any announcement is sure to bring complaints. States have asked for a total of nearly 13,000 miles in extra interstate mileage and they will certainly argue before settling for less—with their state Congressional delegations carrying the fight.

One method being used in Congress, as a bid for more mileage, has been to introduce bills calling for interstate roads to be built between specific points. Wisconsin, Michigan and Washington legislators, for example, are backing a bill that calls for building a 2,300 mile east-west interstate road running from the northern peninsula of Michigan through Wisconsin, Minnesota, Montana, Idaho, and ending in Everett, Wash.

Florida is plugging to have a road between Tampa and Homestead designated as interstate mileage. Maine and West Virginia legislators are in with similar bills. Other congressmen have indicated they will start grinding out bills that would add interstate mileage for their states, too.

• Addition unlikely now—There is virtually no chance of winning Congressional approval for this type of mileage extension now, but it is good politics.

The Administration and the roadbuilding industry want to hold back on adding construction mileage right now. Generally, they have told Congress that the present program should be well under way before there is any attempt made to increase its size. For one thing, it is still too early to judge actual roadbuilding progress. Some states, too, are hitting financial snags in matching federal-aid money.

Governors of fourteen states—Arizona, Indiana, Maine, Missouri, Montana, Nebraska, New Hampshire, New Jersey, North Dakota, Oklahoma, Pennsylvania, South Dakota, Tennessee and Vermont—already have told state legislatures that they must raise more money for roadbuilding. Seven states—Arizona, Arkansas, Indiana, New Hampshire, Ohio, Utah and Wyoming—have bills pending to increase state taxes on motor fuels. Other fund raising methods are under consideration, too.

• Administration problems—There will be more talk of changing the administrative setup of the highway program. One proposal is to create a secretary-level job over new development of transportation and communications. All functions now assigned to the Secretary of Commerce under federal highway acts would be transferred to this office.

Sen. Albert Gore still favors his plan to have a three man commission run the program. Congress turned the measure down last year, but Gore has given notice that he may make another try for it this year, if he doesn't think progress is good enough under the existing setup.

Chances are good that Congress will establish a national advisory committee of county officials to coordinate the secondary road system with the other federal-aid highways.

There is a growing feeling that too much emphasis is being given to building the interstate roads without full regard to problems of the other roads.

Sen. Dennis Chavez, Chairman of the Senate Public Works Committee, wants to set up a 24 member committee that would advise the federal highway Administrator, the Commissioner of Public Roads and state highway departments on rural area problems.

These would include location of interchange points and provisions of access roads, zoning regulations for rural areas—including financing of local planning and zoning studies, effects of bypasses on the economic welfare of rural communities, and safety conditions on the secondary roads.

• How about bypassing?—One important job of the county advisory committee would be to give communities more say in bypass routes. The legislators want more emphasis given to the economic effect of skirting a small town instead of making mileage savings the prime factor in selecting a route.

Although local hearings are held when a new route is selected, communities are not always satisfied with the results. The problem is one that will increase as the road program progresses.

An example of the situation comes from Arizona. The Speaker of the House of Representatives of the Arizona state legislature wired Sen. Carl Hyden: "Respectfully urge that you actively oppose proposed Bureau of Public Roads relocation of State Route 86, which would move road away from Willcox, Bowie and San Simon. Independent survey shows annual net economic loss to communities would be over $4½ million."

Hayden estimated that only 9 or 10 miles would be saved by going around the three towns, and he is challenging the economics of the new route.

Box Score on Federal Highway Bills

If the number of bills going into Congressional hopper is any indicator, there's no lack of interest in amending, expanding and otherwise keeping a close eye on the $100 billion challenge presented to the nation by the federal highway program. In brief, here's a list of the more important bills so far submitted that may affect the plan (H.R. is a House bill, S is a Senate measure):

H.R. 3424—To create a Department of Transportation and Communications, headed by a Secretary. All functions of the Secretary of Commerce under the federal highway acts would be transferred to this department. The office of Under Secretary of Commerce for Transportation would be abolished.

H.R. 962—States that do not levy third-structure taxes (ton-mile taxes on trucks) would be authorized to receive additional federal-aid funds. Funds could amount to as much as five percent of those authorized under the 1956 act.

H.R. 2487—States would not get federal-aid money for highways unless they enforced speed limits of: not in excess of 65 miles per hour on controlled-access roads, 60 and 55 miles per hour day and night respectively on other highways.

H.R. 3977—States would be denied interstate federal-aid money unless they banned billboards within 200 yards of the highways. Federal money would share this cost.

S-1963, H.R. 4593—Would require the Secretary of Commerce to control advertising within 500 feet of interstate system rights-of-way, and limit signs to (1) highway signs, (2) property sale or lease signs, (3) signs advertising businesses conducted on premises in commercial areas.

H.R. 91, H.R. 685, H.R. 1165—Similar bills to increase the interstate system mileage by including a 2,300 mile interstate route from Michigan to Washington.

H.R. 2863, H.R. 2882, H.R. 2805, H.R. 5264, S-705—All to add an interstate route from Tampa to Homestead, Fla.

S-320—Would add two additional interstate routes in Maine to connect with the international boundary.

H.R. 4643, H.R. 101, H.R. 528—To build a federal parkway traversing the Mississippi Valley from its source to the Gulf of Mexico.

H.R. 4138—To build an interstate road from Frederick, Md. to Charleston, W. Va.

S-1200—To make certain route changes in the Henry G. Shirley Memorial Highway in Arlington County, Va.

S-1144, H.R. 3376—To give all state parkways primary highway status in the federal-aid system.

H.R. 4292, H.R. 4615, H.R. 4616, H.R. 4617, H.R. 4622, H.R. 4655, S-1136—To increase funds for building and maintaining forest roads and trails, including timber access roads. Proposed amounts would be: $32 million for fiscal 1958, $36 for 1959, $42 for 1960, and $50 million for the next nine years. The 1956 Highway Act called for spending $27 million through fiscal 1958 and 1959.

H.R. 3620—Directs the Secretary of Commerce to study the feasibility of constructing heliports in connection with the interstate system.

S-1146—Provides for a National Advisory Committee of County Officials to facilitate coordination of county highways into the federal-aid highway system.

S-1149—Would amend the General Bridge Act of 1946 to require interests of all surface transportation to be taken into consideration instead of just navigational interests in planning and building bridges.

Atomic Power Boost

U. S. agrees to help European A-power plan

With official blessing of the U.S. government, six European nations are about to join in a 15 million kw nuclear energy program in the next 10 years. Implicit with the approval was a promise to help out with technical advice and fuel.

The huge program would be carried out by Euratom, a proposed supernational agency formed by France, West Germany, Italy, Belgium, Netherlands and Luxembourg. Two weeks ago representatives from the first three named countries visited with the President and private industry leaders and came away with the U.S. assurances. Then last week in Paris, all six nations agreed on the basic provisions to form Euratom. Formal treaty signing is expected in March.

Western Europe would become the world's leading nuclear power center if the 15 million kw program comes to fruition. It compares with Britain's 5 million kw nuclear plan by 1967, U.S. plans for 1.8 million kw by 1962 and Russia's hopes for 2.5 million kw by 1960.

Impetus for Euratom is the fuel situation. Europe now imports 25% of its requirements, would import 35% in 1967—and much of this is Middle East oil.

- **U. S. interest**—For the U.S. there are these major advantages in backing Euratom:
  - Making Europe more self-sufficient woul tend to stabilize the Middle East situation through the years.
  - The joint power plan is a big step in the unification of Western Europe, a goal Washington deems essential for the Atlantic community of nations.
  - A good share of the reactors—probably half-would come from the U.S.
  - And, most significant to the construction industry, the large-scale European program would provide an invaluable proving ground for the U.S. nuclear power industry.

Experience gained with reactors for the European plants is seen advancing the date when nuclear power in the U.S. becomes competitive with conventional thermal power. At least 10 years is the time now given, but it could be reduced.

Nuclear power in the U.S. will tend to eliminate the power cost differential between various regions by virtue of its not being dependent upon location of the fuel source. Thus, atomic power could promote industrial and associated construction in presently lagging areas.

Acre-Limit Ruling Is to Be Appealed to Supreme Court

A California Supreme Court ruling upsetting the U. S. Bureau of Reclamation's acreage limitation on irrigation water (ENR Feb. 7, p. 17) will be appealed to the U. S. Supreme Court, the state attorney general's office declared after the state court refused on Feb. 19 to grant a rehearing.

Many Californians are worried that the court decision—which says the bureau's acreage limit is invalid in California—might jeopardize federal participation in irrigation projects. The bureau sells irrigation water from its projects with the proviso that a land owner can irrigate no more than 160 acres.

In his petition for a rehearing—which was denied—State Attorney General Edmund G. (Pat) Brown argued the court's ruling was contrary to state law and to all precedents.

Oklahoma Dam Projects Block Highway Program

Oklahoma's three large dam projects—Eufaula, Keystone and Oologah—have financially upset the state's highway building program.

About $25 million will be needed for rerouting 179 miles of highways—some four lanes wide—in the dam areas and Army Engineers have requested that the money be paid within 2½ years.

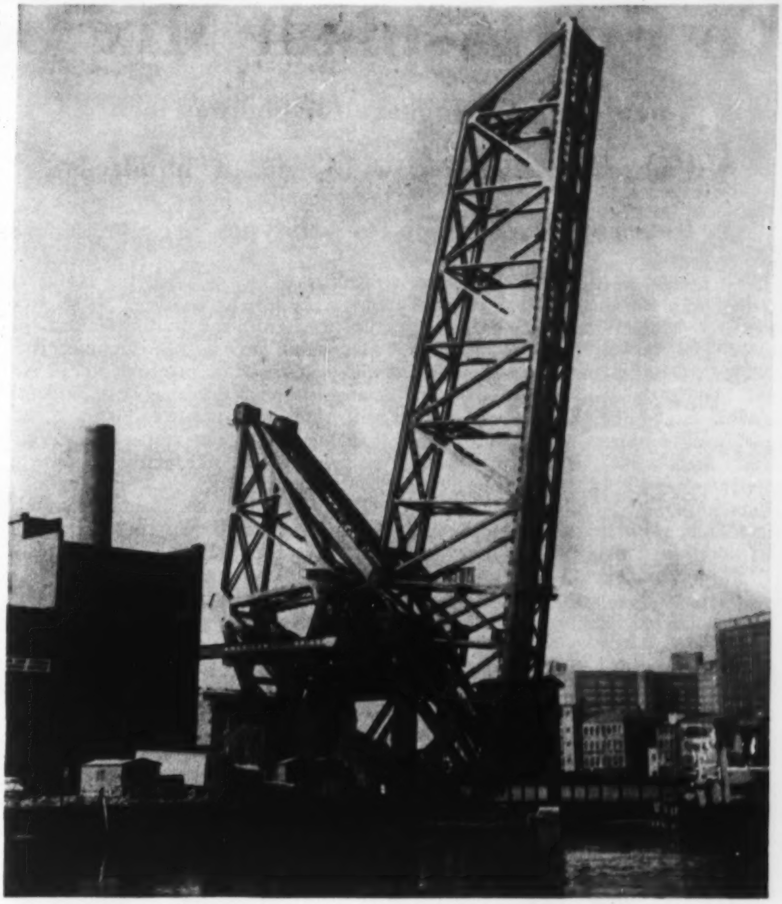
Army Engineers want $6 million within six months and the balance during the following two years. This will be a serious drain on regular state road funds, although half the amount will be paid by the U. S. government. State Highway Director C. A. Stoldt is scheduled to go to Washington soon in an attempt to have the payments extended over a five year period.

Boston Navy Yard to Get New $20 Million Drydock

A contract for design of an 1,160 ft drydock capable of handling the Navy's largest fighting ships—including aircraft carriers—has been awarded the Boston engineering firm of Fay, Spofford & Thorndike, Inc.

Scheduled to be built in the South Boston Navy Yard, the new $20 million facility will be the largest on the eastern seaboard and one of the three largest in the U. S. It is estimated that the engineering, which will cover plans for the drydock and all auxiliary services, will require about a year.

Two other drydocks of similar size are planned, but they will be built along the West Coast: one at Bremerton, Wash., and the other at Mare Island, Calif. One other is now under construction at Camden, N. J. (ENR Nov. 22, 1956, p. 32).



Bascule Bridge Comes Close to Record

The Baltimore & Ohio Railroad has placed in service a bascule bridge that comes within a few feet of the established record for a single leaf bascule span. Spanning the Cuyahoga River, at Cleveland, the single-track bridge has a span of 255 ft.

The record span is a double-track bridge across the Chicago River, near 16th St. in Chicago. This bridge, built in 1919, has a span of 260 ft measured between the trunnions and the end bearing.

The new span is flanked on the west by a 55 ft tower span and on the east by a 63 ft deck plate-girder span. Total length of the bridge is 375 ft. The structure was designed for Cooper E-60 live loading.

The bascule bridge is a 10 panel riveted Warren truss. The main members are box sections. The top chord consists of 4 angles, a perforated bottom cover plate and a solid top cover plate. The bottom chord consists of 4 angles, and perforated cover plates. The two stringers are 36 WF 150 and the floor beams are 4 ft plate girders.

To prevent obstruction of heavy river traffic, the bascule span was built vertically, in the open position. The bridge normally will be kept in the open position, since the track is not on a main line and therefore is not subjected to heavy use.

The pier carrying the operating mechanism and the dead load of the opened bridge is supported on 12 drilled-in caissons. These have steel H-cores in the center of the concrete-filled 30 in. dia casings. They are socketed into bedrock to a depth of 5 ft. Rock is about 130 ft below the base of the pier.

The substructure was built by Merritt-Chapman & Scott Corp. for about $800,000. The superstructure was erected by the American Bridge Division, U. S. Steel Corp. for about $1.5 million. Total cost of the bridge was about $3.3 million. K. J. Wagoner, chief engineer of the B & O, was responsible for the planning and construction of the new bridge. Hardesty & Hanover, New York City, were consulting engineers.

To End Asphalt Mix Confusion

- **A new common language for highway men**
- **Eight mix classes now instead of hundreds**
- **But provision is made for sub-types**

As a means of ending confusion resulting from the multiplicity of names currently applied to asphalt paving mixes, The Asphalt Institute has devised a system of mix type identification that is to form the basis of the new hot-mix construction specifications now being prepared by institute engineers. Details of the eight fundamental mix types set up by the institute, with the names and numbers assigned to them, are given in the accompanying chart.

In urging widespread adoption of this system of mix identification, Arvin S. Wellborn, chief engineer of the institute (see p. 66) said that the engineers of the institute have satisfied themselves that the terms and limits set forth in the system are in general agreement with construction practices in all 48 states, although they may be at variance with some local practices.

None of these variances, Wellborn states, is sufficiently serious to constitute discrepency.

The institute's classification formula is not intended to deny the existence of sub-types which have a rightful place in the table of specifications.

In fact, the organization's forthcoming construction specifications will include many sub-types, related to the general system but establishing the more precise limitations required for close control of high-type asphalt paving mixes.

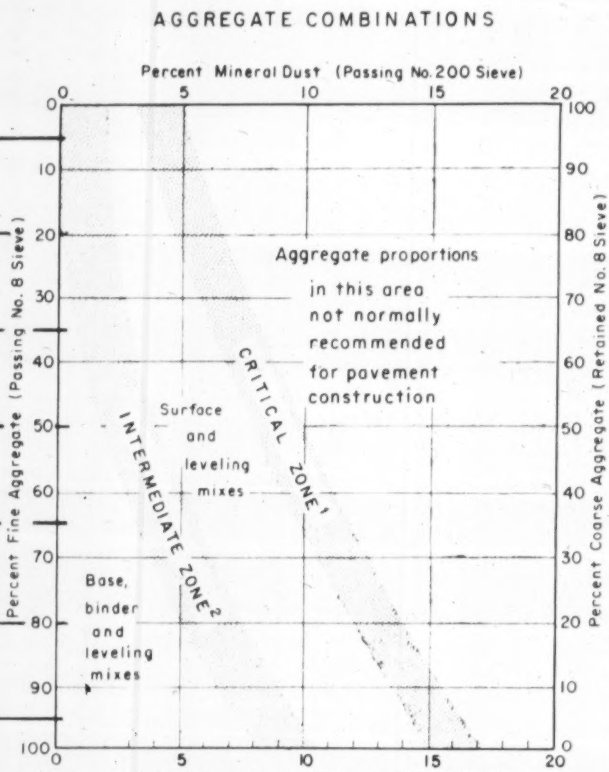
The basic purpose is to speed the day when engineers from different states can meet to discuss mutual problems in highway construction without first negotiating a series of intellectual hurdles involved in transposing terms.

• The eight mix types—The fundamental mix types have been identified by name as follows: I—Macadam, II—Open Graded, III—Coarse Graded, IV—Dense Graded, V—Fine Graded, VI—Stone Sheet, VII—Sand Sheet, and VIII—Fine Sheet.

Each mix is designated by specific limits for aggregates which are retained on and passing the No. 8 sieve. Similarly, the chart also indicates the maximum size of aggregate normally used

CLASSIFICATION OF HOT-MIX ASPHALT PAVING

PAVING MIX DESIGNATION		MAXIMUM SIZE AGGREGATE NORMALLY USED	
Type	DESCRIPTION	Surface and Leveling Mixes	Base, Binder and Leveling Mixes
I	MACADAM		2 1/2"
II	OPEN GRADED	3/8" – 3/4"	3/4" – 1 1/2"
III	COARSE GRADED	1/2" – 3/4"	3/4" – 1 1/2"
IV	DENSE GRADED	1/2" – 1"	1" – 1 1/2"
V	FINE GRADED	1/2" – 3/4"	3/4"
VI	STONE SHEET	1/2" – 3/4"	3/4"
VII	SAND SHEET	3/8"	
VIII	FINE SHEET	No. 4	No. 4



1. *Critical Zone : Dust contents in this region should not be used without a substantial background of experience with such mixes and/or suitable justification by laboratory design tests.*

2. *Intermediate Zone : Dust contents in this region sometimes used in surface and leveling mixes as well as in base and binder mixes.*

SYSTEM OF IDENTIFICATION for hot-mix asphalt paving proposed by The Asphalt Institute sets forth limits believed to be in close agreement with current practices in all 48 states. The eight types are not hard and fast specifications; sub-types are allowed for.

for a given mix designation, and the limiting amounts of mineral dust generally found satisfactory for base construction, binder or leveling course, and surface mix.

Primary consideration is given to the proportions of coarse aggregate (retained on the No. 8 sieve) and the fine aggregate (passing the No. 8 sieve). Important, also, is the proportion of mineral dust (passing the No. 200 sieve), and the normal limits for this proportion are indicated by a shaded band on the chart. The band is used to denote flexible—rather than fixed numerical limits.

Normally, surface course mixes will contain relatively more mineral dust than either base or binder mixes. Conversely, base mixes will contain a minimal fraction of dust. An examination of the chart will show this relationship.

As a general rule, the base and binder course mixes will fall on the left side of the shaded band, with the surface course mixes being found to the right. Leveling mixes may fall into either area.

It will be noted that a second shaded band represents the Critical Zone, defining the extreme limits of good construction practice. Aggregate proportions in and beyond this banded zone are not normally recommended for pavement construction, unless proved by lengthy experience.

Further information concerning the recommended classification chart can be found in "Mixed Design Methods for Hot-Mix Asphalt Paving", manual series No. 2, the Asphalt Institute, College Park, Maryland.

Joint Survey Is Rejected For New Mississippi Span

A proposed preliminary survey for location of a Mississippi River bridge at the foot of Auction Ave. in downtown Memphis hit a snag late this month when the Arkansas Highway Department declined to be a party to the study with the Tennessee Highway Department.

The engineering firm of Modjeski & Masters, Harrisburg, Pa., offered to conduct the survey, which is to be paid from funds allocated for the federal highway system. But Arkansas reportedly did not want to become obligated to any particular engineering firm, according to Memphis City Engineer Will Fowler.

It is felt that the bridge will be one of the last projects to be built in the road program. Fowler said he will ask the Tennessee Highway Department to contract on its own for the preliminary study. An early decision on location is important to Memphis, as the east-west leg of the proposed expressway system is aligned to this river crossing.

Road Groups Revamp

State road departments face reorganization plans

Two states—North Carolina and Kentucky—have laid the groundwork for revamping their highway departments to handle expanded roadbuilding programs.

Gov. Luther H. Hodges has told the North Carolina legislature that he supports recommendations of a study commission to reorganize the highway department. A policy board, rather than individuals, should control the expending of huge sums of money he said.

Under the reorganization plan the Highway Commission would become a policy-making body. It would be cut from 14 to 7 members, placed under the same budget controls as other state agencies and provided with a modern accounting system.

The governor's comments came as the legislature received the 1957-58 budget recommended by the State Advisory Budget Commission, which calls for expenditure of about $381 million on construction and maintenance of highways. During 1955-57 an estimated $263 million in state and federal funds will be spent.

- **Kentucky reorganization**—Meanwhile, following up on the sweeping recommendations of a management consultant, Kentucky's Department of Highways has appointed 14 engineers to supervise field forces handling the state's expanded roadbuilding program.

The appointment—six area engineers and eight district engineers—replaced zone offices. The number of districts was cut from 11 to 8 to coincide with the unmber of advisory-highway-commissioner districts.

Under the new setup—to go into effect March 1—area offices will have charge of construction and materials in addition to location and design, including rights-of-way. District offices will have charge of maintenance, traffic, safety and equipment.

Michigan Shelves More Public Works Projects

A new Michigan State Supreme Court building and $17 million worth of proposed construction at Michigan State University have been postponed in a second economy move by Gov. G. Mennen Williams (ENR Feb. 7, p. 132).

State agencies, in their budget requests, asked for $120.2 million for new construction for the new fiscal year. But the governor ordered this total slashed to $51.8 million.

However, the governor did recommend appropriations of $1.9 million to complete the new $4 million education building at Michigan State University, $1.9 million to start construction of a $4 million mechanical engineering building, and $650,000 to complete a $1.2 million electric generator project.

Williams cut the university's request for $3.5 million to start work on a business administration building and recommended only $106,000 to plan for social science, chemistry and civil engineering buildings. The university had asked for $7 million.

Requests totaling $6 million to plan and start construction of a conservation building and a communication arts building were eliminated.

New Turnpike Head

Engineering dean will direct Pennsylvania agency

Dean Merritt A. Williamson of the School of Engineering at Pennsylvania State College has been elected vice chairman of the Pennsylvania Turnpike Commission and named acting chairman to direct the troubled affairs of the tollroad agency pending court disposition of fraud charges that have been brought against two suspended commission members.

First action of Acting Chairman Williamson and commission members was to suspend with pay the commission's assistant chief engineer, John D. Paul, who also is involved in the court proceedings.

The two suspended commission members, along with 20 others, were indicted on charges of conspiracy by a Dauphin County (Harrisburg) grand jury on the basis of state allegations that they conspired to defraud the commission in connection with mine flushing contracts in stabilization of the roadbed of the northeastern extension (ENR Feb. 21, p. 50).

In another turnpike development the agency's consulting engineer, Michael Baker, Jr., of Rochester, Pa., submitted new toll schedules but the board refused to make them public "pending a study" of the proposals.

One official said the commission will not approve higher tolls for any section of the road except the 33 mile stretch between Valley Forge and the Delaware River, which has not been paying its own way.

Meanwhile, in the state legislature, a bill was introduced to authorize a new turnpike extension from the vicinity of Harrisburg northward to link with the New York Thruway. The governor, however, has indicated he would not sign any further turnpike extension legislation if the road is to be built as a toll facility, because he wants to free the system of tolls as soon as possible.

ASCE Meeting Hears Challenge of

Convention papers foretell big new jobs, focus on design problems and difficulty of recruiting engineers

Civil engineering, to judge from the program of the Spring Convention of the American Society of Civil Engineers in Jackson, Miss., last week, is the art of providing facilities for the handling of fluids and motor vehicles.

There was a series of papers on oil and gas pipelines sponsored by the new Pipeline Division of the society. Water was the *piece de resistance* in the Power Waterways and Harbors, Hydraulics, Irrigation and Drainage and Sanitary Engineering divisions. And road and bridge problems occupied the attention of the Highways, Structural, Surveying and Mapping, Soil Mechanics and Foundation and Construction divisions.

In addition, symposiums on education—concerned with the questions of attracting high school students to civil engineering and of recruiting graduating engineers—had a principal focus on the fields of rivers and roads.

From the total of 150 papers presented, there emerged a picture of new jobs to come in both of these fields and of a realization that the time has arrived to get down to the actual business of designing the needed new highway facilities, particularly the bridges.

• Mississippi flood control—The most extensive re-examination of the lower Mississippi Valley flood-control plan since construction began on it in 1928 is now under way. Maj. Gen. John R. Hardin, president, Mississippi River Commission, in reviewing the evolution of the plan, announced that a report on the adequacy of the main-stem features will be submitted to the Chief of Engineers this summer, to be followed by a report on the tributaries in 1958.

In noting the necessity for the review, General Hardin emphasized the great changes that have occurred in the valley—large increase in population, industrialization, and greater demand for water supply. Even though the present system of levees, floodways, cutoff, and reservoirs has rendered the lower valley reasonably safe from most floods, there is no assurance that a super flood will not occur.

The new study therefore assumes a combination of massive storms bringing water from all the main tributaries with the resulting hydrographs. A reappraisal of the functioning of the system is being made. The "project" flood is one with a discharge at Cairo, Ill., of 2,450,000 cfs and of 3,000,000 cfs at Natchez, Miss.—approximately 25% greater than the flood of 1927. Many modifications in the original plan have been made in the past 30 years, and General Hardin stated that "there is no doubt that it will be modified still further as conditions change in the future." More revetment of channels and more reservoirs on the tributaries are good possibilities.

• Work still unfinished—One of the tributaries on which important work is still scheduled is the Yazoo, where a $180 million program is about 46% complete including four reservoirs costing $70 million. In a paper on the project, C. K. Little, civil engineer, Vicksburg District, Corps of Engineers, reported that the existing works have reduced the Yazoo flood stage at Greenwood, Miss., about 9 ft. Studies are under way in cooperation with the U. S. Soil Conservation Service to determine the feasibility of soil erosion control measures and of small flood detention dams.

• Land improvement—In this connection, a paper by Prof. Harry Ruby of the University of Missouri developed the idea that, by irrigation, drainage and good agricultural management the 23 million acre alluvial valley of the Mississippi could be made to produce more than "California, Texas and Egypt combined." Pointing to the same objective were three sessions of the Irrigation and Drainage Division devoted to humid area development by drainage, sprinkler irrigation and gravity irrigation.

Further Mississippi River jobs coming up were highlighted by a paper on the new outlet to the Gulf by Col. William H. Lewis, District Engineer at New Orleans and L. C. Brunes, mechanical engineer there. Some 76 miles long, 500 ft wide and 36 ft deep, the canal will provide a slack-water route for ocean-going vessels. Preconstruction planning, which has just begun, will allow construction to begin in July 1958. It is a five year job.

The success, which General Hardin noted for the flood features on the lower Mississippi, is being duplicated at the far upper end of the system, on the main stem of the Missouri, according to R. J. Pafford, Jr., Chief, Reservoir Control Center, Missouri River Division, Omaha. Three years of experience with annual operating plans for reservoirs, laid out in advance, have shown that power requirements, flood-control needs and low flow regulation can be met successfully. Pafford stated that without the planned reservoir releases this year, St. Louis would have been in difficulties of tremendous proportion. In routing water down the river the Control Center makes extensive use of electronic computers, which Pafford noted could do in one hour what it would require 200 engineers to do by normal methods.

A day-long inspection trip to the laboratories of the Corps' Waterways Experiment Station at Vicksburg showed many of these Mississippi and Missouri River features in model form. In addition there were operating models of dam spillways and outlets, which were the subject of papers delivered at one of the hydraulics division sessions.

• Moving motor cars—Whereas moving water was the problem with which about half of the convention was concerned, the other half focused on the objective of modern highways over which motor cars could move with greater efficiency.

Conrad H. Lang, Chief Engineer, New York State Thruway Authority warned that the design standards adopted for the interstate system should be applied in strict accordance with economic justification so as not to be wasteful with funds on sections of low traffic volume. He also warned that the present requirement for motorists to leave the main through-arteries to get service, gasoline and food will not prove satisfactory, and urged that it be changed.

Charles M. Noble, newly named Ohio State Highway Director touched on the same subject in recommending that the state highway departments appoint a director of operations whose duties would encompass, among other things, the efficient planning for these service facilities on the new controlled access roads. And Terry J. Owens, urban highway engineer, Automotive Safety Foundation, carried these new concepts of freeway planning a step further in urging cities to provide transit loading facilities on their new arteries so that buses can be used more efficiently and safely.

The new roads will also be different from the standpoint of design methods used, and in this photogrammetry will play a major part. Prof. Charles L. Miller, Massachusetts Institute of Technology, estimated that expenditures by highway departments for photogrammetric services in the next ten years will total at least $200 million and "could easily reach twice this amount." He also thought that the spending of 5% of this amount on photogrammetry research would be justified and that this work should be carried on cooperatively by highway departments, photogrammetry firms and engineering schools.

• **Highway bridges**—Fourteen papers devoted to the subject of highway bridge design occupied the four sessions of the structural division, and brought out new data which are to be made available in printed form as rapidly as possible. Only the highlights can be reported here.

E. L. Erickson, Chief, Bridge Branch, U. S. Bureau of Public Roads reported that the present 6th edition of the AASHO bridge specifications will be superseded by a 7th edition some time this year. There will be a new section on wind loads reflecting the results of tests completed at the Taylor ship model basin in Washington. And there will be a new truck loading arrangement permitted as an alternate to the standard H20-S16 diagram. It will be in the form of two 24,000 lb axles spaced only 4 ft apart, and will usually be controlling for short span bridges and the floor members of long span bridges.

For the present the AASHO bridge specifications will not cover prestressed concrete, and welding will continue to be covered by reference to the specification of the American Railway Engineering Association.

In support of the decision to retain the H20-S16 loading as the maximum, except for the short-member alternate, Stewart Mitchell, consulting engineer, Sacramento, Calif., and Gerald Borrmann, engineer, Standard Oil Co., California, presented an analysis of existing bridges as to overload capacity. Their conclusions: (1) using bending moment in a simple span as the criterion, the H20-S16 design loading simulates fairly well the effect of actual vehicle loads operating under the state vehicle codes; (2) the possible occurrence of loads heavy enough to cause a reduction in strength due to their repetition is not a course of concern under present conditions; (3) overload capacities are adequate for both concrete and steel beam bridges, but somewhat greater for concrete bridges; (4) overload capacities should be the same for both types, and can be made so by revision of specification on the basis of ultimate design, other than by changing loadings; (5) the current specifications using the H20-S16 loading are of as high a standard of load carrying capacity as economy will justify.

In other highway bridge session papers: Prof. T. Y. Lin, University of California outlined the problem facing the profession in fixing load or safety factors for prestressed concrete members because they vary so widely depending on whether or not tension is permitted in the concrete, on what grade of steel is used, etc.; much additional research is needed, he said.

Prof. H. O. Ireland, University of Illinois urged that engineers consider backfill just as important a material in a bridge abutment as the concrete and the steel in the abutment itself, and insist on its being strong, drainable and non-compressible and being properly placed. And Prof. C. F. Scheffey, University of California in explaining the use of digital computers in bridge design stated that their function was not only to save manpower but to permit refinements and greater accuracy in the work itself.

Expansion Is Proposed For North Carolina Ports

A six year, 13.8 million, development program for state-operated ports at Wilmington and Morehead City, N. C., has been recommended by a New York consulting firm. Appropriations to begin the long-range plan have been approved by the state's Advisory Budget Commission and presented to the legislature.

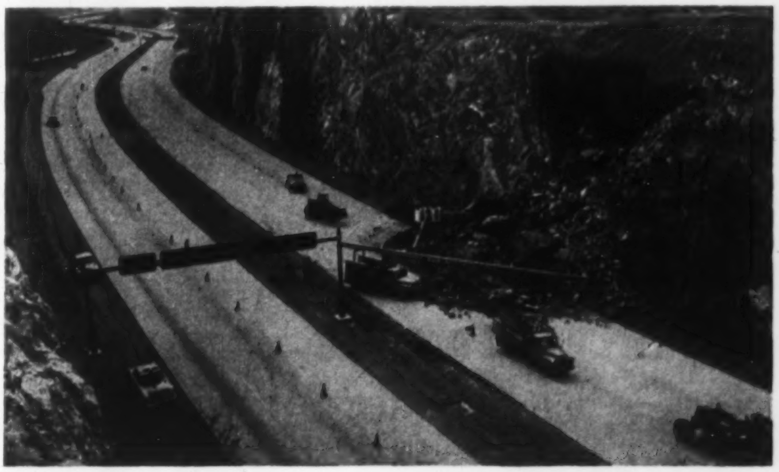
The $15,000 study was made by James Buckley, Inc., at the request of the State Ports Authority and the Budget Commission.

Report findings were used by the commission in recommending the expenditure of $3.1 million in capital improvements to the Wilmington facilities during the 1957-59 biennium.

The consulting firm recommended that the bulk of the expenditures be made at Wilmington and that only $1.3 million of the total cost be spent at Morehead City, where inadequate rail and highway communications were found to be limiting factors. It was suggested that to remedy this situation, additional rail car storage capacity be installed.

Wilmington is in need of an additional 700,000 sq ft of transit shed space and more ship berths, while in Morehead City an additional 100,000 sq ft of warehouse space is required.

The 1957-59 budget recommendations of the commission "makes a start," according to Director David S. Coltrane, "along the lines proposed by the study." Included in the over-all plan is construction of a 1,100 ft extension to existing docking facilities at Wilmington, at an estimated cost of $2.2 million, a transit shed costing $575,000, and rail facilities costing about $150,000. In addition, $100,000 is proposed for renovation of a 162,500 sq ft fabricating shop.



Weather Drops Tons of Rock on Thruway

Alternate freezing and thawing of water-bearing seams in a rock formation was blamed for causing this rock fall, which on Feb. 19, spilled more than 1,000 tons of stone on three southbound lanes of the New York Thruway, just north of Yonkers.

In spite of one damaged car and several near misses, no one was hurt, even though some of the fallen boulders weighed more than 15 tons each. Thruway authorities estimate clearing costs at about $4,000, and figure the job can be done in a week. During the clean-up, some southbound traffic will be diverted to one of the northbound lanes.

Water for Industry: The Rules Change

Plan for Cleveland Area is different due to large industrial need

When large quantities of industrial water are part of domestic supply systems, normal water planning concepts may have to be modified. This is the lesson illustrated in a water needs study for a 105 mile long, 30 mile deep strip along Lake Erie surrounding Cleveland released this month.

Stanley Engineering Co., of Chicago, prepared the report for the Lake Erie Watershed Conservation Foundation, a public-minded private group.

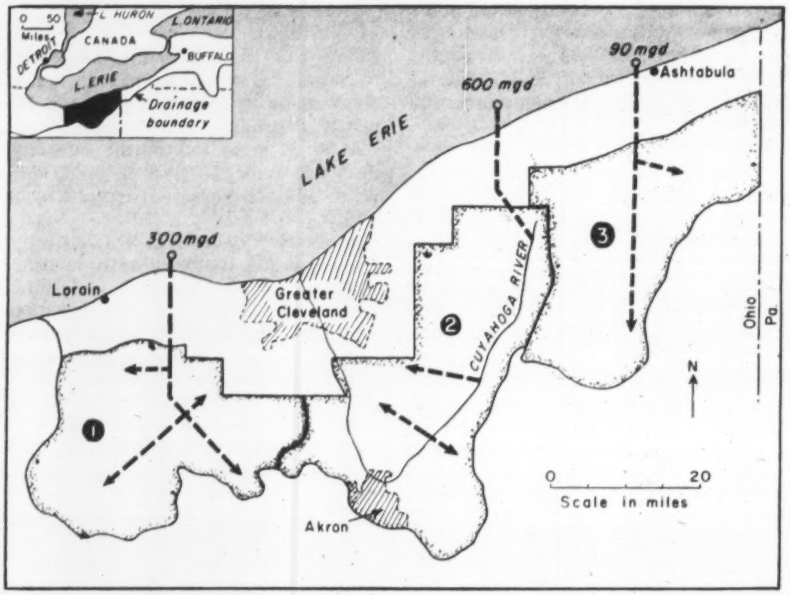
In the 3,100 sq mi watershed draining to Lake Erie, population and water demand are projected as shown in the table. All of the "private" and many of the "public" figures represent industrial use of water.

The large gallon-per-capita-per-day (gcd) figures are clear indications of the magnitude of industrial water use expected. The consultants noted that current water use is increasing at the rate of 4 gcd per year, but used a figure of 2 gcd/yr for their projection. Estimates of future population were based on the assumption of plentiful water to attract industry, which in turn would cause the water demand.

• Demand climbs sharply—to obtain reliable data on private or self-supplied industrial water consumption, the engineers had the benefit of an unpublished survey of 13,000 industrial users in Ohio conducted in 1954 by the State Department of Natural Resources. Although projections are generally in line with U. S. Department of Commerce estimates that present industrial water consumption will double by 1975, they represent a marked increase over commonly employed rates of increase, which vary from 0.6 to 1.0 gcd/yr.

In planning the actual supply project, the consultants quickly came to the conclusion that water in the quantities needed (present demand roughly equals capacity) could be obtained only from Lake Erie. Development of but a small portion of a possible 220 mgd of surface and groundwater sources is likely.

Future water demand in a 10 mile wide strip paralleling the lake shore can be satisfied by the expansion of existing community supply systems now drawing from Lake Erie, or by systems developed jointly by municipalities and industry. This lakeshore strip accounts for about 90% of present usage, 75% of estimated demand in 2000 and 65% of projected efficiency in year 2000.



LAKE ERIE WATER would be pumped inland for domestic and industrial use. But water would be treated at terminus and supply sized for average, not maximum, daily demand.

• Projects by basins—Supply projects proposed in the report are concerned with bringing lake water to the inland areas. Significantly, the planners found it most economical to divide the interior into three entirely independent service areas, defined generally as valleys of the three major rivers in the study area—the Black, Cuyahoga and Grand. Interconnecting pipelines, on the order of urban grids, are not economical. However, the plan for each interior area probably can be combined with systems serving the lakefront areas at mutual benefit to both.

Basically, plans proposed for inland areas 1, 2 and 3, shown on the accompanying map, consist of submerged crib lake intakes, shore pumping stations, transmission pipelines, booster stations and feeder mains to central points of use, where the water would be picked up by municipal and industrial users. There would be only a very small amount of terminal storage.

• Departures from norm—Two features of the plan stand out: Raw water would be delivered, and the system would be sized for average daily demand in the design year rather than maximum daily demand. Both are due to the predominance of industrial water. Of the water supplied by each of the systems, between 30 and 40% is for potable supply, while the other 60 to 70% is for so-called private (strictly industrial) and irrigation. It was found uneconomical to treat water at large lakeside plants unless at least 60% of the demand was by those requiring potable water. There are, of course, other factors which enter the picture, but the consultants went ahead to recommend that raw water be pumped and municipalities treat and distribute in their own systems.

In sizing capacity of the supply work for average daily demand, the consultants count on sufficient re-use of water that has been delivered, used and discharged to natural water courses to balance peak demand requirements. It is felt this waste water would be suitable in quality for re-use by industry and irrigators and to supplement municipal supplies that draw from inland streams.

Population, Demand Forecasts for Study Area

	Population	Public (mgd)	Private (mgd)	Irrigation (mgd)	Total (mgd)	Gal/Capita/Day
Present	2,400,000*	403	863	16	1,281	535
1980	3,450,000	745	1,810	99	2,654	770
2000	4,800,000	1,208	2,850	196	4,254	885

* Present estimate based on 1950 census

Schemes for the three inland service areas envisage conventional stage construction involving 6 and 7 ft dia parallel pipelines. One or more of these lines can be used for treated water if desirable.

• Lake to river to lake–Area 2, however, has a plan just a little bit different from the others. Lake Erie water would be pumped a short 15 miles into the headwaters of the Cuyahoga River, which flows southerly and westerly into the heart of the service area, then drains northward back into Lake Erie at a point some 35 miles west of the proposed intake.

This plan is the cheapest for getting Lake Erie water inland in this area. However, because of quality questions, the consultants suggest examination of an alternate plan involving a tunnel under the City of Cleveland and pipelines due south into Area 2. By including capacities to serve lakefront areas of Cleveland, cost of this scheme in later stages approaches the cost of the river carrier plan.

• Reasonable cost–All told, the three inland supply systems would cost $56 million in the next few years (Lake Erie water must be available inland by 1959, say the engineers) and $200 million by 2000.

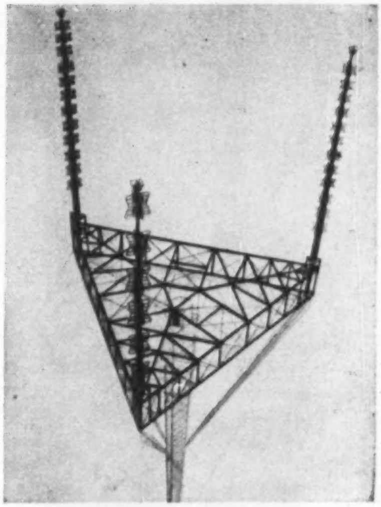
Average cost of water delivered to municipalities and industries is estimated at $150 per mg during the first stage (to 1980) and $78 in 2000. Treatment required would add between $25 and $45 per mg and distribution facilities could add another $50 to $100 per mg.

Thus, total cost to an individual user of a public supply could range from $150 to $225 per mg–a range commensurate with recently estimated costs of suburban water service by the City of Chicago (ENR Feb. 23, 1956, p. 33).

As would be expected, a regional agency would carry out the supply scheme, and would even construct distribution facilities where local agencies cannot or will not. The consultants call for the supply agencies to have some authority for pollution control since continued high quality of waters in natural streams must be assured. Enabling legislation of rather broad scope is required in Ohio before anything very effective can be done in the Lake Erie region.

Genesis of the comprehensive and pioneering engineering report by a private group is also a sign of the times. Similar plans by private individuals are being formulated in New Jersey and other states.

Behind them all lies a growing awareness of the need for prompt action to assure sufficient water as prerequisite for regional growth.



105 Foot Platform Will Top TV Tower

Antennas for three Baltimore television stations will be located at the same level atop an unusual transmission tower now being designed by Dresser-Ideco Co., of Columbus, Ohio. At the upper extremity of the 731 ft guyed steel structure will be a 105 ft triangular platform with an antenna at each corner.

At the center of the platform, a small building will serve as the upper terminus of an elevator for broadcasting engineers and maintenance personnel of stations WAAM, WBAL-TV and WMAR-TV, owners of the tower. Radio Corporation of America will supply the antennas.

Unwanted Spots Halt Plaster Work on School

When plaster in the $2.25 million Midelburg Island school, under construction near Logan, W. Va., started to sprout pink spots, Morris Skilken Co., Columbus, Ohio, the general contractor, ordered the plastering stopped.

An investigation indicated that the color came from insulation board used behind the plaster. A decision on how to get rid of the unwanted spots has not yet been made.

Politics Seen as Factor In Chesapeake Crossing

What could become a major political row in Virginia is shaping up over the location of a proposed bridge-tunnel across lower Chesapeake Bay. Various state and local agencies have been debating construction of some sort of a connection across the 20 miles of open water between Kiptopeke, at the southern tip of the Delmarva Peninsula, to a point near Norfolk. The crossing would replace the present ferry service.

However, pressures are being set up with the idea of blocking construction of the facility in a direct north-south direction across the Bay in favor of a westerly direction—possibly to some point in Mathews County, the tip county on the peninsula formed by the York and Rappahannock Rivers.

Fifty-five representatives from points such as Newport News, Alexandria, Fredericksburg and Richmond met recently at Richmond and set forth a number of objectives, including an east-west crossing to promote more inner Virginia tourist traffic. Many of the delegates said that they felt that by making a straight line route due south to Norfolk, tourist traffic would bypass central Virginia.

Tacoma-Everett Expressway Under Way This Year

The Washington State Highway Commission expects to start work this year on the first unit of a $194 million expressway running from Tacoma through Seattle to Everett.

The plan was disclosed when the commission filed with the legislature a two year budget of more than $62.5 million for work on interstate highways. Almost half of the budget will be spent on the 65 mile expressway, with a large part of the funds going toward the purchase of right-of-way within the City of Seattle.

First construction will start south of Tacoma. And the largest single unit in the project will be a $17 million two-level bridge across Lake Union in Seattle.

The expressway project originally had been planned as a toll undertaking, but decision was reached to build it as a freeway when the expanded federal highway program was announced.

State Waterway Commission Urged for North Carolina

Creation of a State Waterways Commission for North Carolina, patterned after the State Highway Commission, has been proposed by representatives of coastal cities. Of particular concern is the continued dredging of small inlets used by coastal shipping–a matter on which legislation is expected to be submitted to the state legislature, now in session.

A delegation, which met recently with state officials, commented that North Carolina has more navigable waters than most other states but that there is no over-all coordination to connect waterway projects. It pointed out that the Highway Commission is responsible for an over-all state highway program, but that there is no unified front the state could present to the Corps of Engineers in seeking river and harbor funds for special waterways work.

NEW CP-610 Air Wrench

meets requirements for turn-of-the-nut method for proper tensioning of

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New CP-610 Air Wrenches are 7 pounds lighter and 2 inches shorter than any other tool of comparable rating . . . deliver up to 50% more torque output. Chicago Pneumatic Tool Company, 8 East 44th Street, New York 17, New York.

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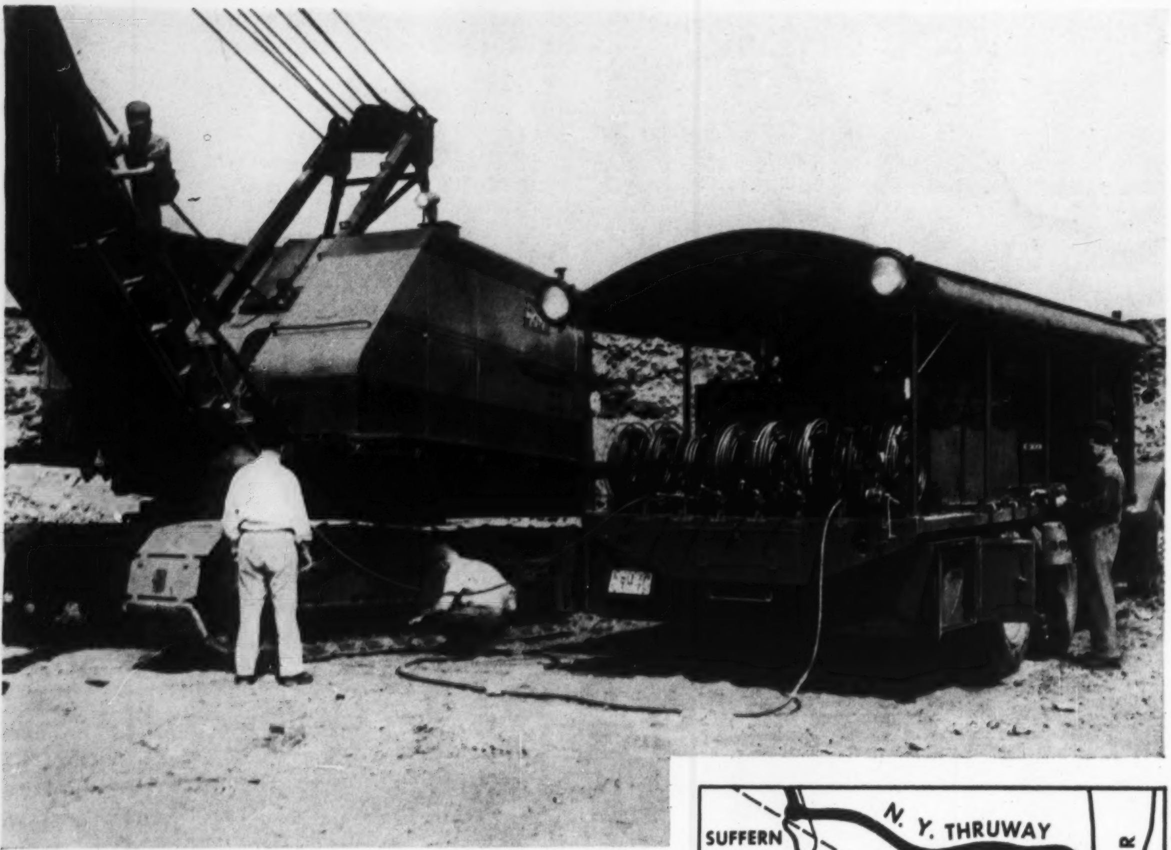

This lubricating truck was designed and built by Brewster for high-pressure on-the-site lubrication and fueling of equipment.

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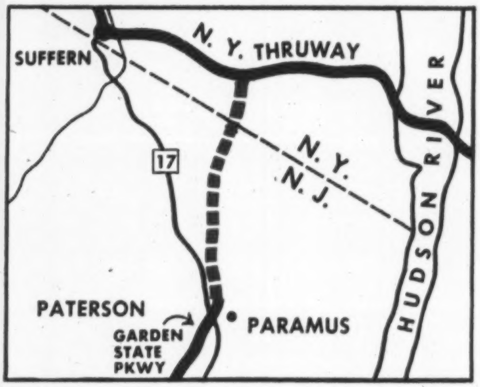
relies on ESSOLUBE HD for cleaner engines, greater power, longer life



A vital link between New Jersey's Garden State Parkway and the New York Thruway is being built by Geo. M. Brewster & Son, Inc. It's a 4-lane 3½-mile highway.

Essolube HD was specified for Brewster's 85 pieces of construction equipment used on the Spring Valley-Paramus Connecting Link job. (In their new Caterpillar supercharged diesels, Brewster uses Esso Estor D-3.) Brewster noted *outstanding internal cleanliness resulting in better engine efficiency and economy, prolonged engine life.*

What's more, Essolube HD cuts Brewster's handling and inventory since it is being used in both diesel and gasoline engines. And there's never any danger of using the *wrong* lubricant.

Brewster is using Esso fuels and lubricants *exclusively* on the Spring Valley job. Result: maximum power, fewer breakdowns, longer engine life for all equipment.

More and more contractors are finding out that in any equipment, on any job, under any operating conditions... it pays to specify *Esso.*

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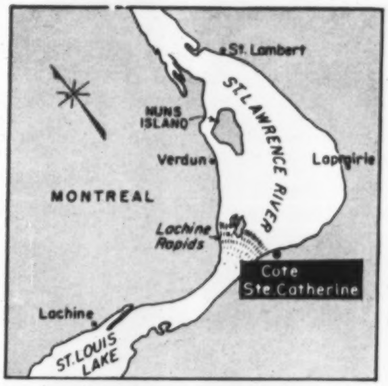
PETROLEUM PRODUCTS

Cote Ste. Catherine—lock, channel and turning basin—is a contract in the St. Lawrence project where . . .



One Seaway Contractor Is Staying Ahead

The tough St. Lawrence Seaway project, plagued by delays and difficulties from the start, has set back a number of contractors in their schedules during the last two years.

However, one exception is found on Cote Ste. Catherine Lock just across the river from Montreal, Que. For here is a part of the project that is ahead in the face of accelerated schedules and unexpected obstacles.

The $7,107,480 (bid price) contract calls for construction of the lock, adjacent channel and turning basin. Work involves excavating 4.5 million cu yd of earth, glacial till and soft shale rock, and placing 350,000 cu yd of concrete. All is to be completed by June, 1958.

To date, lock excavation is 85% completed, other general excavation is 60% finished, and over 30% of the concrete for the lock has been placed.

• Well-run job and machines—Credit for the job accomplished so far goes to the care with which it was planned and laid out, to the maintaining of a smooth steady operation and good equipment maintenance. Added to these is an exceptionally good project manager.

Excavation for the lock fell into two categories: the part above water level, which could be excavated dry, and the part below water level. The latter called for cofferdams and dewatering. Once dewatered (by two 24 in. and six 10 in. pumps), the same equipment and methods are used as for the above-water part.

Two 4 cu yd shovels load a fleet of eight 35 ton rear-dump haulers. Most of the material excavated so far is used to complete the cofferdams and dikes and to fill low adjacent areas. In the haul cycle, steady consistent production is sought, rather than irregular bursts. A machine-speed limit of 20 to 25 mph has been set which results in an average 10.6 min for a 4,700-ft one-way haul and 13 min for 5,700 ft. Though not spectacular speeds, they give a day-in day-out production that does the job.

Concrete for the job is mixed and batched by a plant having three 3 cu yd mixers, which is situated adjacent to the lock site. Mixed concrete is hauled by 15 ton trucks fitted with 6 cu yd concrete bodies. At the lock, three cranes with 100-ft towers and 100-ft horizontal booms hoist and dump the mix into place. Each crane can lift 3.3 tons at 100-ft reach, or 6.6 tons at 50-ft reach.

One unanticipated problem that had to be coped with came during the winter of 1955-1956. With progress in the pits behind the cofferdams well under way, large slabs of floe ice catapulted over the embankment and into the hole. A big ice-removal operation kept lost time to a minimum.

• Preventive maintenance—An excellent equipment maintenance program has helped the contractor beat his schedule. Haul roads also are well kept up. A double-quonset-hut shop is set up at a central location on the job. Here, under the direction of a regular superintendant of maintenance, mechanics and service men handle day-to-day maintenance as well as major repairs.

During the winter months, when operations slow down, work in the shop is concentrated on reconditioning and preparing older equipment, while the newer machines handle the bulk of production work.

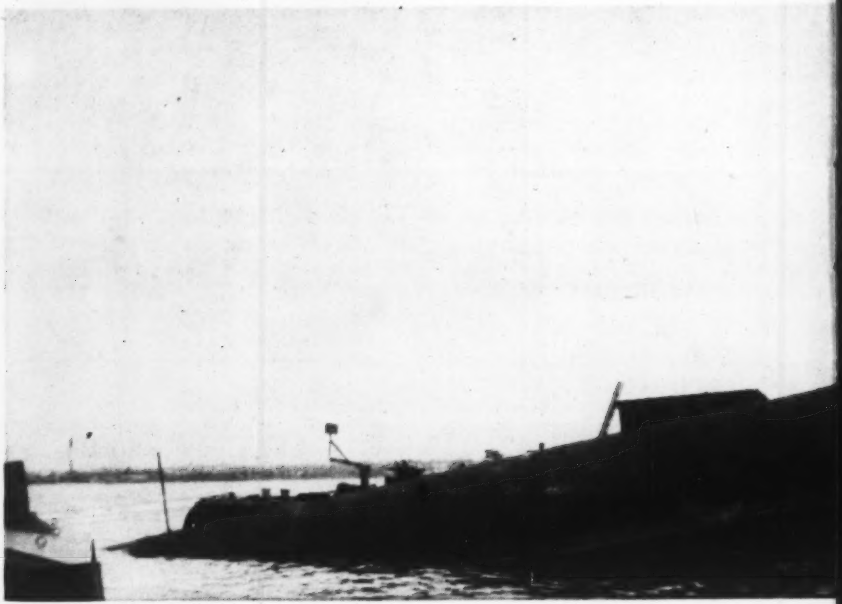
And the program pays off. In the case of the rear dumps, careful servicing and quick attention to minor repairs has resulted in a record of 90 to 95% mechanical availability for the entire fleet since the job began.

Contractor for the Cote Ste. Catherine project is Canamont & Canit Construction, a combine of Deschamps & Belanger Ltee, Dufresene Engineering Co. Ltd., A. Janin & Compagnie Ltee, The Key Construction Ltd. and Canit Construction Ltd.; Key Construction is managing contractor. Project Manager is M. Kazanovitch.

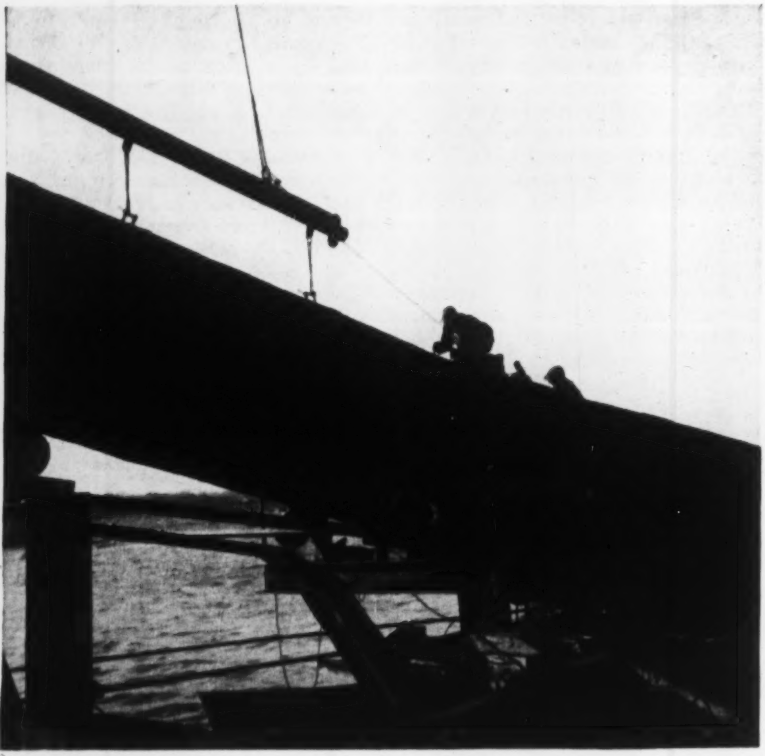
CONCRETE batching plant (right) prepares mix for lock, which is shown here in early stages of construction.

EXCAVATION for canal section is done by 4-cu-yd shovels loading into 35-ton rear-dumps.

Placing 84 in. corrugated metal pipe for 6,500 ft outfall in New Jersey's Raritan Bay went fast, using efficient rig and method.



Big Pipe Is Laid Like Submarine



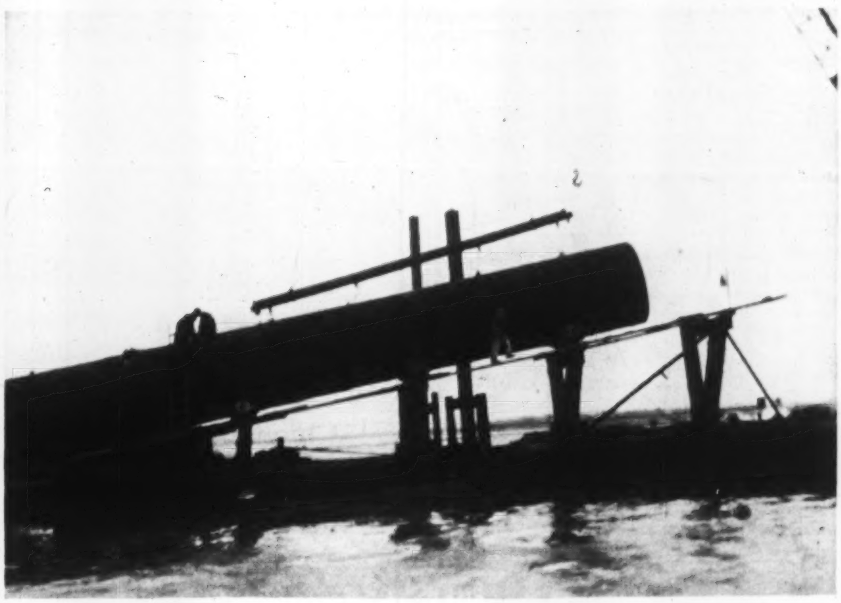
EASED INTO POSITION by crane strongback, 40 ft 6 ton pipe length is lapped with placed pipe. Steel pins are used to line up holes for placing 66 bolts.

Laying submarine cable is difficult enough, but placing 84 in. outfall pipe in the same manner is real dream stuff. Yet this is exactly what happened in New Jersey's Raritan Bay, where up to 240 ft a day of corrugated metal pipe were paid off an ingenious floating rig. Laying a 6,500 ft sub-aqueous outfall, part of Middlesex County Sewerage Authority's Raritan River cleanup (ENR Nov. 15, 1956, p. 34), was smooth going.

It wasn't always thus. J. Rich Steers, Inc., New York, had bid $3.5 million, or $800,000 lower, on a metal pipe alternate to concrete for a 17,500 ft outfall. Steers subbed the 10,690 ft landward portion, which accounted for roughly $70,000 of the difference between his metal and concrete pipe bids.

His original plan for the seaward portion was to join six 20 ft sections of corrugated pipe on a barge, sink the assembly and make a complicated hoop-band-gasket joint underwater. Trouble was, it was difficult to make this joint.

But whereas metal pipe, with its joint requirement, caused the problem, another of its characteristics—flexibility—saved the day. Receiving permission to go to the bolted joint (which also couldn't be made underwater), the contractor worked out his unique "cable-laying" scheme allowing all joints to be made above water.



Cable

• Assembly-line setup—The pipelaying was a smooth assembly-line operation that proceeded as follows:

- A floating crane picked up a 40 ft length of pipe from a supply barge and butted it against the last section supported on a ramp fitted to the side of another barge.
- The bolted joint was made.
- The crane barge then winched itself and the ramp barge further into the bay, letting the pipeline slide down the ramp and down a "ladder" hinged to the ramp and extending into the motor.
- Divers watched the pipe settle onto a prepared bed, sandbagging as necessary to achieve proper grade

Then the sequence was started again —place, bolt, pull back.

• Pipelaying rig—The two working barges were lashed end to end, with the crane preceding the ramp barge out to sea. The supply barge was tied to the side of the crane.

The ramp attached to the side of the shoreward barge was 90 ft long and fabricated of welded 14BP structural sections. It was on a slope of 1:6. The pipe lay on, and moved along, pairs of automobile wheels (with tires on) spaced every 15 ft the length of the ramp.

Hinged to the lower end of the ramp, and extending into the water, was a 110 ft long steel framed section also equipped with tires. This so-called ladder helped support the pipeline on its drop to the pipe bed.

Depending on the angle the latter made with the bed, which increased with depth of water, the pipeline took off from some point on the ladder and curved down to the bed. The resulting unsupported length caused a few problems, for it is here that stresses were highest, due to a maximum 5 ft rise and fall of the tide (movement of the barges caused little stress).

At first, ⅜ in. stainless steel bolts were used for each joint, but on two occasions these completely sheared off in the unsupported length. Then the contractor received permission to utilize ½ in. high tensile alloy steel bolts in conjunction with a reduced number of the stainless variety. Each joint was then made with 44 of the high tensile and 22 of the original bolts, interspersed uniformly around the perimeter. The former effectively resisted laying stresses while the latter are expected to better resist deterioration once the pipe is bedded.

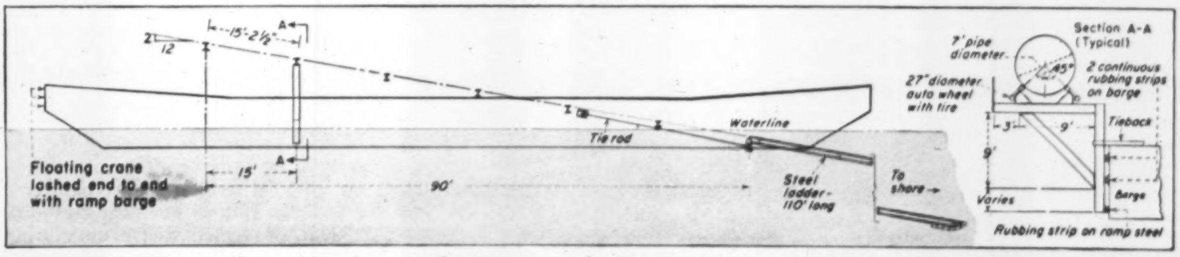
Another difficulty with the unsupported length was determination of a suitable length of ladder. At first an 80 ft extension was built, but it was found that 110 ft was required. Flexibility of the pipeline is such that in 20 ft of water (to bed), it took off about 60 ft from the end of the ladder and touched bed 20 ft beyond the end, or roughly a curve of 300-ft radius.

A different arrangement was resorted to as the contractor approached the end of the outfall. Here water depth is greater than 30 ft. Steers used a pontoon arrangement that raised the ladder off the bottom and enabled it to support a greater length of pipe. Another method could have been to raise the ladder end with vertical members that would drag along the bed.

• Making the joints—Working lengths of pipe comprised two 20 ft sections bolted together in the contractor's yard. The crane strongback picked up the 40 ft lengths, which each weighed 6 tons, at four points. New sections split-lapped the pipe end on the ramp by about 2 in.

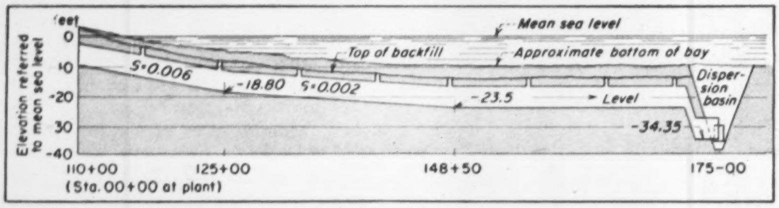
Bolt holes were lined up by steel pins. After all 66 bolts were tightened, a mastic was applied cold to both inside and outside of the joint, the former to match the smooth inner lining of the asphalt-bonded metal pipe. This joint is expected to meet the same exfiltration test required for interceptor pipe on the rest of the Raritan project—under a 5 psi hydrostatic head loss is not to exceed 525 gpd per mile of pipeline.

• Moving the rig—When each length of pipe was joined to that already in place, the floating crane and ramp barge, act-

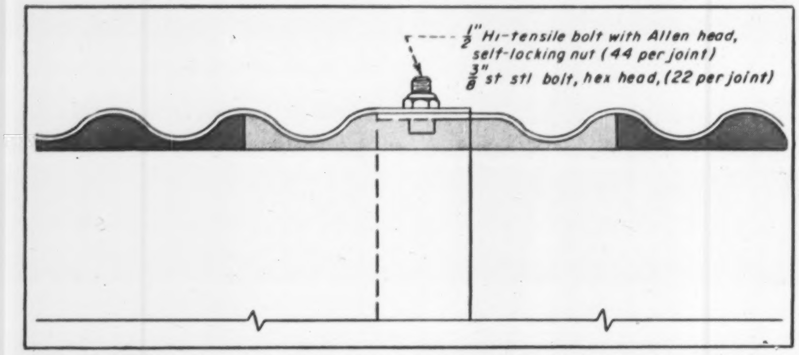

2
12
15'-2½"
A
A
15'
90'
Floating crane lashed end to end with ramp barge
Tie rod
Waterline
Steel ladder-110' long
To shore →
Section A-A (Typical)
7' pipe diameter
45°
27" diameter auto wheel with tire
2 continuous rubbing strips on barge
3'
9'
Tieback
9'
Varies
Barge
Rubbing strip on ramp steel

PIPELAYING RIG is made up of two barges—a floating crane and a barge fitted with a shop-fabricated ramp at its side on which the pipe lengths are joined and paid off into the water.

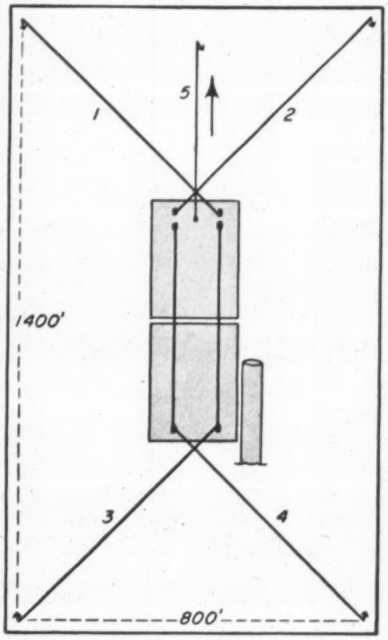
. . . Flexibility of pipe is utilized



PROFILE OF SUB-AQUEOUS OUTFALL shows gradual slope encountered. Water suction is expected to bring backfill up to bay-bottom level.


1/2" Hi-tensile bolt with Allen head, self-locking nut (44 per joint)
3/8" st stl bolt, hex head, (22 per joint)

PIPE JOINT is made up of 44 $\frac{1}{2}$-in. high-tensile steel and 22 $\frac{3}{8}$-in. stainless steel bolts. Mastic is applied cold to joint, to match smooth lining of asphalt-bonded metal pipe.



RIG IS PULLED away from pipe by means of winches on floating crane working on lines running to anchors in the bay.

ing as a unit, backed off to the next position, and in effect the pipe slid down the ramp and ladder and into the water. Winches on the floating crane working on five lines anchored to 3 ton mushrooms set in the bay (see sketch) accomplished the all-important barge movement.

Line No. 5 pulled the barges straight back. Lines 1, 2, 3 and 4 were winched up—following a transitman's directions—to keep the ramp on the pipeline centerline. The transitman, who kept in touch by two-way radio, lined up on a steel rod screwed into a ramp crossmember. The transitman was on shore.

Once the ramp was in position, workers disengaged spuds, which dropped down into the riverbed to anchor the ramp barge. Disengagement required only a second or two as one man simply knocked out a small piece of angle iron that fit into a slot cut into the spud. The crane was used only to lift the spuds before each move.

As the barges used up working space provided by one set of anchors, another set already placed in the bay—was picked up. The vacated anchors were left for the backfilling barge.

• Bedding the pipeline—The pipeline bed consists of a 4 ft cushion of granular material placed in a trapezoidal-shaped dredged trench. Divers corrected for low spots with sandbags. To reduce movement of the pipeline before the backfill was placed, divers chocked the pipe every 200 ft with sandbags.

Some sections of pipe were laid up to 1 ft above grade. The contractor was able to lower the pipe by jetting alongside before backfilling. The contractor backfilled with clamshells, depositing 2 ft of granular material over the pipe.

Steers had to succumb to the inevitable at the dispersion end of the outfall and make three joints underwater. Dispersal piping is H-shaped, of reducing sections of corrugated metal pipe in a 100 ft square pattern. The contractor made this up in three sections, weighing some 40 tons total, and placed it, with floating derricks, in a dredged basin. This piping is to be held in place and protected by a 2 ft cover of bagged cinder concrete, hand-placed.

For J. Rich Steers, Eugene Rau, chief engineer, A. Thurber, assistant chief engineer, Jack Malcolm, general superintendent, Brick Miles and G. White, superintendents on the job, and Tom Hodges, superintendent at the yard, collaborated on devising the unique pipelaying method.

A. A. Thomas, resident engineer, and Irving Rosenfield, engineer overseeing the outfall, represent the engineer, Metcalf & Eddy, Boston. E. Sherman Chase and John S. Bethel, Jr., are the M & E partners in charge of the project. C. A. Lydecker is executive director and Sol Seid is chief engineer of Middlesex County Sewerage Authority.

The corrugated metal outfall pipe was supplied by Armco Drainage & Metal Products Co.

AUTOMOBILE WHEELS, with tires left on, are spaced in pairs along length of ramp to take and guide pipe. When barge is pulled back, pipe slides along on the wheels.

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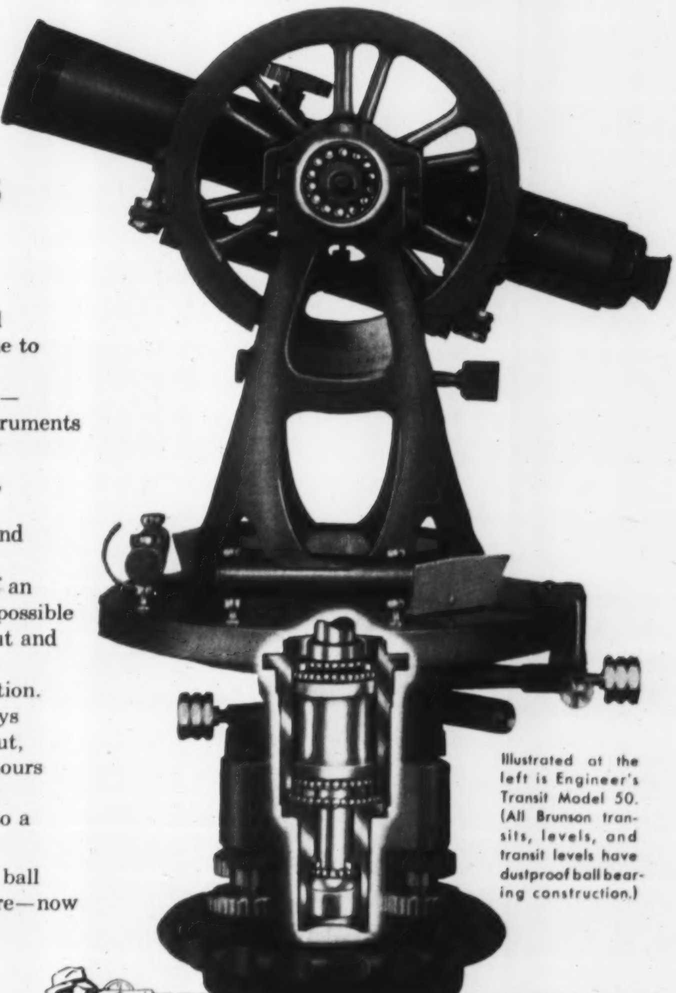

Illustrated at the left is Engineer's Transit Model 50. (All Brunson transits, levels, and transit levels have dustproof ball bearing construction.)

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The design adaptability, time and labor savings afforded by fir plywood forms helped set a Washington State record for low construction costs on this Tacoma school. Allowing half area* for the lower floor, school officials give $9.91 per square foot as the complete construction cost, including taxes and fees. Architect Irvin E. Muri credits fir plywood forms with playing an important role in helping hold costs to this low figure – some 20 per cent below the state average.

2. smooth, fin-free concrete

Plywood-formed surfaces, both inside and out, were merely sack-rubbed and then painted – a major factor in the low cost. Fir plywood also was used for ceiling slabs, retaining walls.

3. economy through re-use

Up to 6 re-uses of plywood forms were reported by contractor. In addition, many panels were later re-used on other jobs. The contractor reports the plywood forms helped speed work and cut costs all along the line.

**Allowing full area for the complete per square foot construction cost comes to $7.85.*

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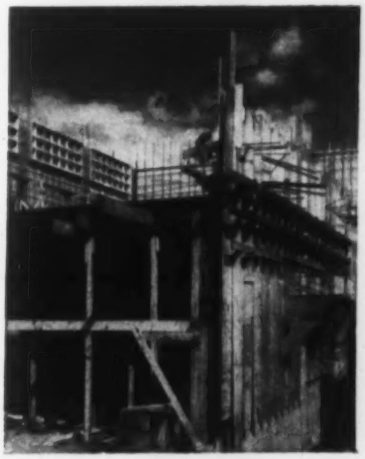
ARCHITECTS: Lance, Muri & McGuire, Tacoma
CONTRACTORS: Bonnell Construction Co., Tacoma



Construction view shows wall and floor slab forms in place. Panels were used six times on job, many also re-used by contractor on subsequent jobs.

Stripping ceiling forms. Exposed concrete surfaces, both inside and out formed against 5/8" fir plywood, were painted direct after minimum of rubbing, eliminating plastering.

INTERIOR PLYFORM →
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OVERLAID PLYWOOD →

At a cost of nearly $200 million for engineering and construction, the U. S. Air Force has built . . .

Two Bases

MAINE: At the start of work on Loring Air Force Base men and equipment cut a wide swath through the sparsely settled, rolling countryside. Crews then put down 50 in. of compacted subbase and base for the facility's single 12,000 ft runway.

AT FINISH, with 1,000-ft-long reinforced concrete pads at either end to take landing shocks, is operational for huge B-52 jet bombers like the one on taxiway at right center. Area at lower right is concrete warm-up pad for planes.

Two of the nation's mightiest airbases—nerve and operations centers for the Strategic Air Command—now exist for the nation's defense near the New England seacoast. Into them has gone nearly $200 million for engineering, construction and land acquisition. They sport two of the world's longest runways—12,000 ft long by 300 ft wide—two of the world's largest hangars, some of the most modern troop housing anywhere.

One of the bases—Loring Air Force Base near Limestone, Maine—is a designer's dream, built in almost virgin country, where there were nearly no obstacles to shaping the job exactly to requirements. The other, Portsmouth Air Force Base just outside Portsmouth, N. H.—was the more familiar designer's nightmare, fitting a major military installation into an urban area.

Together, they represent much of the latest thinking of the men who must fly, service and support the products of the aircraft designers' art. Separately, they are studies of intensive planning under widely-differing conditions, and how that planning has worked out. Neither base is finished yet, though Loring construction started in 1947 and Portsmouth in 1953.

• **Strategy**—To appreciate the reasons for construction of the two bases—and others like them around the U. S.—some knowledge of Air Force thinking and aircraft development is useful.

World War II brought about a tremendous build-up of airpower, and heavier planes than had been previously known—and with it the construction of hundreds of airbases. But these bases, designed for the craft available (for instance the 64,000 lb B-24 "Liberator" bomber), were built to austere standards. They seldom occupied more than 1,500 acres of land, and had runways 5,000 to 6,000 ft in length.

During the period 1946-50, no new bases were built—there were hundreds in existence. But by 1947, it was apparent that the war-built bases wouldn't do for the new equipment trickling into the Air Force inventory. Aircraft were beginning to appear with tremendous wheel loadings (now up to 400,000 lb. for the B-52), and they required immensely long, extremely smooth runways for safe operation. And with the new planes went newer, bigger, more flexible support facilities, and a number of special problems including the handling of the highly volatile and pavement-destroying fuels that are used for jet engines.

Additionally, the bases had to be

for the Biggest Strategic Bombers

NEW HAMPSHIRE. Visitors cars and service aircraft are dwarfed at opening-day ceremonies by huge 1.4 million sq yd reinforced concrete parking apron at Portsmouth, N. H., base. End of parallel 12,000-ft runway is visible at upper right.

located in line with a new strategic concept—offensive operations from the shores of the continental United States, as well as a defense in which aircraft could go out to repel an invader at a great enough distance from a U. S. objective to provide some measure of safety for the civilian population and the nation's industrial complexes.

Still more, the limit of what the aircraft industry can turn out, in relation to size and power in an airplane, isn't yet in sight. So the new bases should be designed for very great expansion, if need be.

• Potato country—Strategic concepts of this kind were of little concern to the potato farmers of Limestone Township, almost the most northerly settlement in Maine's huge Aroostook County. For many years rated as one of the most prosperous farm areas in the U. S., the thinly-scattered population lived for some months of the year in semi-isolation imposed by severe winters.

But the area offered many attractions to the Air Force's planners: Despite the hard winters, the area is almost entirely free of fog. There is ample land available, few high hills and no manmade obstacles to clear approaches for the aircraft. And very few problems of relocation of population would be involved.

• Problems, too—Of course, the planners were well aware that their dream would bring with it real problems for the engineers and the construction men. What they proposed to do, in fact, was to create a complete city (present population, over 13,000) and a complete facility for housing, servicing and maintaining combat aircraft, in the middle of a near wilderness.

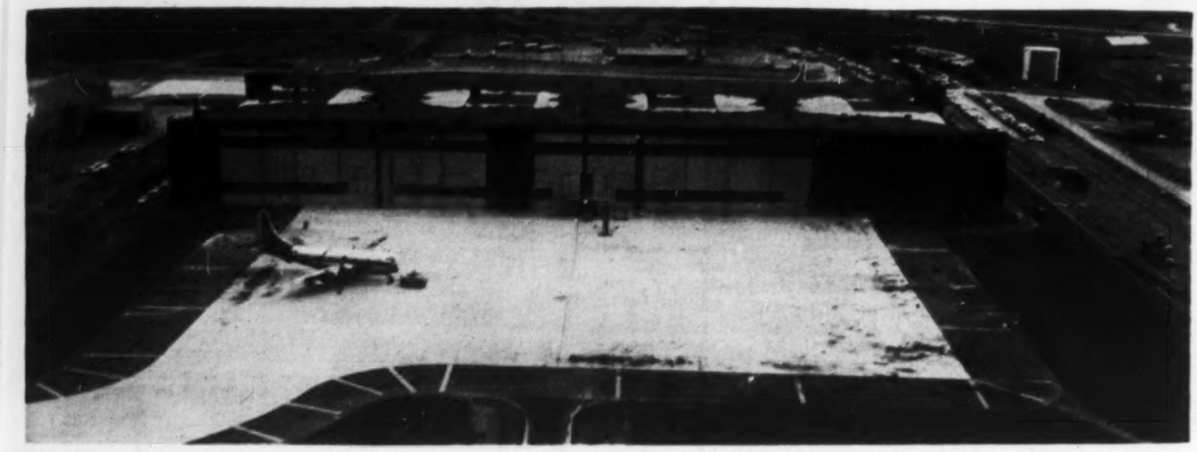
Their job, so far, has involved such construction as this: A 12,000 x 300 ft frost-free runway, with an overall depth of 70 in.; a double-cantilever hangar with overall dimensions of 616 x 250 ft, which can completely shelter six B-52's at one time; a concrete monolithic arch hangar 340 ft x 314 ft (ENR Feb. 3, 1949, p. 56); more than 20 multipurpose wing and nose hangars; a 7 story, high-pressure hot water central heating plant; two water softening plants; a complete sewage treatment plant that handles over 1 mgd; 2 million gal of ground and elevated water storage tanks and booster pumping facilities; the equivalent of more than 300 miles of two-lane highways in hardstands, parking aprons and other pavements; two churches, two schools, 1,500 units of family housing; a 1,000-seat theater, post exchange, skating rink, community store, bowling alleys, clubs and other community facilities (including the only military-operated TV station in the U. S.); more than 200 miles of fuel transfer pipelines from Searsport, Maine to the base; warehouses, maintenance shops; and railroad sidings.

And coupled to the roughly 10,000 acres that make up the base itself are several hundred acres of other government-owned lands occupied by communications, aircraft control and warning stations, ordnance storage and air defense outposts.

Nor is construction finished. Contracts recently have been awarded for an Olympic-sized swimming pool, and plans have been completed for new surface water supplies to furnish 2 mgd.

• Construction—Unlike the war-built airbases, construction at Loring and at Portsmouth is considered to be permanent, with structures designed for a minimum 25 year life. Barracks, for instance, are steel-framed structures, with reinforced concrete floors and steel sandwich panels as outside facing. Other structures are faced with cement-asbestos shingles, and some, of late, are of brick and block.

. . . Bases for biggest strategic bombers



DOUBLE-CANTILEVER HANGAR at Loring AFB is 616x250 ft, can accommodate six B-52 bombers at one time.

The first actual construction step undertaken by the Army's Corps of Engineers—which acts as the construction agency for the Air Force on the two bases—was building access roads plus a 25 mile railroad to connect with the main tracks of the Boston and Maine Railroad at Caribou, to the southeast. On the site, though out of the path of the proposed construction, the engineers set aside a 100 acre "contractors' area" to which rail sidings were brought, and where concrete batching and mixing plants could be set up. Most of the contractors' field offices also were located in this area.

The biggest problem was to find adequate sources of base and subbase material for the huge, roughly north-south runway.

The base had to be carried down to an average of 70 in. to provide against the deep frost penetration common in the area.

The geology of the area is basically a glacial till, with rock about 20 ft below the surface. Adequate sources of fill material finally were located within the area of the government reservation, but some of the boulders had to be passed through crushers to be brought to specified sizes.

The main runway—designed for the B-36, piston-engine intercontinental bombers, then the main reliance of the Strategic Air Command—was surfaced with asphaltic concrete with a thickness of 4 in., over 6 in. of crushed stone. Within the last year, 21-in.-thick reinforced concrete extensions, each 1,000 ft long, have been placed at either end of the runway, and similarly built warm-up pads have been constructed at the northern end.

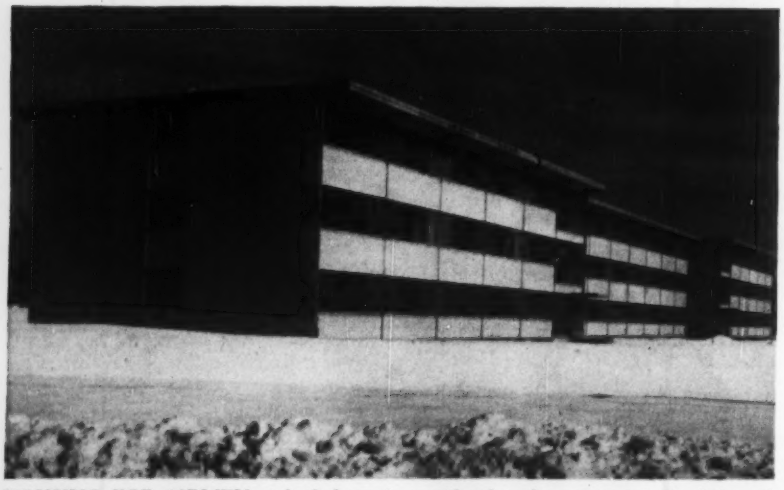
• **Portsmouth base**—In contrast to the rural character of the Loring AFB site, the Portsmouth base was built in what is virtually a suburban area, on the outskirts of New Hampshire's largest city and, in fact, on the much expanded site of the old municipal airport.

Despite the problems common to any construction in an urban or suburban area—and those of land acquisition—the site was an easier one from a construction and engineering standpoint than Loring. The area was relatively flat. It could be supplied with power and other services from existing sources. Access roads were no problem (sections of the New Hampshire Turnpike form two borders of the 5,000-acre facility).

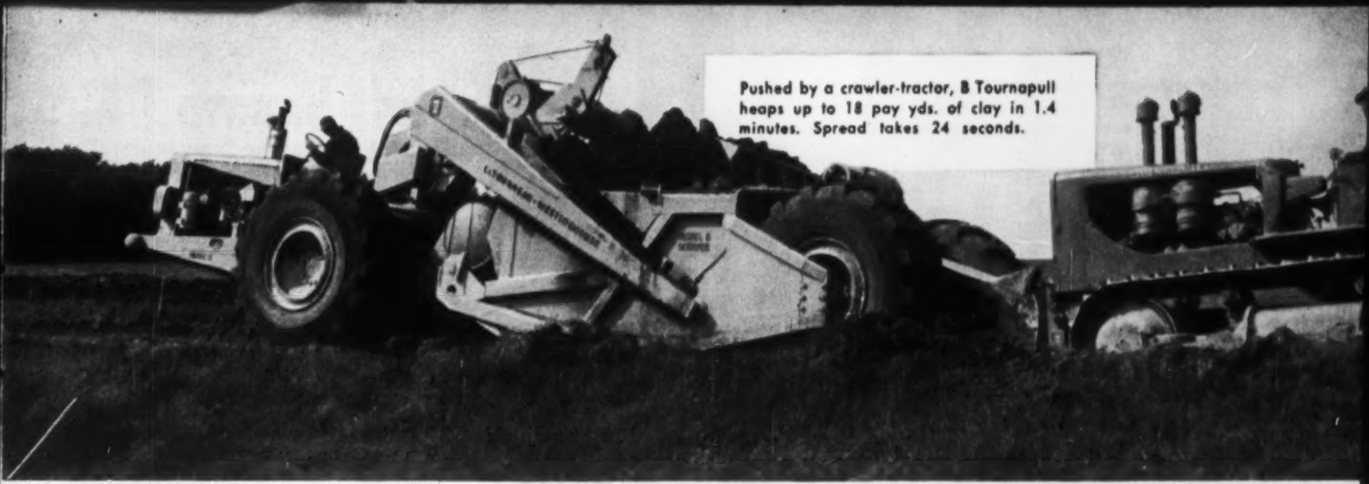
Up to the present time, $64 million has been spent for construction at Portsmouth, the biggest part of it on the 11,300 x 300-ft runway and on what is probably the world's largest heavy duty concrete parking apron—1,010 ft wide by 11,700 ft long. A double-cantilever hangar, comparable to the one at Loring, also has been built and is in service.

Like Loring, the base is heated by a circulating hot high pressure water system, where water is heated to temperatures of 360° F and at a pressure of 250 psi. It is circulated through insulated pipes (some underground and some above) to the base buildings, where heat exchangers function to heat water and generate steam for space heating. The warehouses, hangars and some shops utilize the high temperature water directly through unit heaters.

One of the most serious problems at Portsmouth was water supply. Located on the proposed site were a number of wells that produced about 90% of the city's domestic requirements. It was necessary, therefore, to find a new supply as a replacement. First proposed was development of a surface source from the Isinglass River north and west of the base. But the project was abandoned because of the $11-million estimated cost and the lack of enthu-



HOUSING FOR AIRMEN at both bases is considered to be permanent. Steel framed, the barracks are enclosed with sheet metal sandwich panels, divided into two-man rooms and include recreation and service areas.



Pushed by a crawler-tractor, B Tournapull heaps up to 18 pay yds. of clay in 1.4 minutes. Spread takes 24 seconds.

Rubber-tired speed pays off on long hauls for De Ruyter Bros.

To improve the safety of 12 miles of U.S. 59 between Montevideo and Milan, Minnesota, the roadbed and shoulders of this trunk highway had to be widened to 40 feet . . . roadbed cut to grade . . . ditches dug, and low spots in the road had to be built up. In all, De Ruyter Bros., of Willmar, Minnesota, had to move 396,000 yards of material, mostly clay, over hauls averaging .8 mile.

Because of the long hauls on this job, the contractors needed fast, mobile equipment, so included in their fleet one 24-yard B Tournapull, three 16-yard C Tournapulls, and one C Tournatractor. These worked with 3 crawler-scraper units (that were used for short hauls), three 13-yard self-propelled scrapers, 2 crawler-pushers, and 3 motor patrols.

"Tournapulls do a good job"

According to time studies taken on typically long earthmoving cycles of more than 8500 feet, the big 24-yard "B" delivered a heaping load of clay every 12¾ minutes. "B" averaged 4 round trips per 50-minute hour.

On these cycles of 4240 feet one-way, grades ranged up to 6%. "B" used an average of 1.4 minutes to gather a heaping load of clay, and .4 minute to spread load on the fill.

Traveling this same cycle, each C Tournapull delivered a load every 12.17 minutes. Average load for the "C's" was estimated at 13 pay yards. The three spread 156 yards of fill during a 50-minute hour.

Easy to maneuver

"Tournapulls have done a good job for us," says owner John De Ruyter. Operator Marlyn Carlson adds, "I like the Tournapulls' ease of handling and ability to make 90° turns."

Despite its big capacity, the B Tournapull can turn around in a space only 35′ wide; the "C" turns around in 30 feet. In all Tournapulls, simple electric controls reduce end-of-day fatigue...enable operator to do more and better work all day long.

Travel 100 miles in 5½ hours

One big advantage of all LeTourneau-Westinghouse self-powered equipment is its ability to travel long distances . . . fast. These Tournapulls and the Tournatractor traveled 100 miles to the job, from Fulda to Montevideo, Minnesota, in 5½ hours.

If you have a problem of moving more yardage at lower costs, consider what these fast-moving, self-powered Tournapulls and Tournatractors can do for you. Current scraper models have increased capacity — to 25 yds. for "Big B", to 18 yds. for "C" Fullpak, to 9 yds. for new bigger "D". Find out how their modern rubber-tired speed can make bigger, safer profits for you.

Traveling 75 feet, Tournatractor push-loads a 13-yard scraper with 10 yards of clay in 40 seconds. When not used for push-loading, the 208 hp tractor-on-rubber worked on a variety of bulldozing assignments. Operator Lester Alseth says, "I like Tournatractor speed for fast moves between jobs, as well as on the job. It is a good dependable machine, very easy to handle."

Tournapull, Tournatractor—Trademark Reg. U.S. Pat. Off. G-938-H-b

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HOUSING for families at Loring is garden-type apartments.

siasm by the 15 or more local communities that would have had to participate in the development.

An alternate proposal—now constructed and turned over to the city—was for development of a new well field at Madbury, some eight miles from the base, and construction of a 24-in. pipeline from that location to a 2 mg ground storage tank and booster pumping stations. To provide adequate reserve, provisions were made to handle 600,000 gpd for exclusive use of the airbase, and expansion to a use of about 2 mgd for this purpose.

• **How did we do?**—Generally speaking, Air Force and Army engineers are satisfied that their original design concepts were correct, and that the bases as they now exist are good and more than adequate for the service they were built to handle. Nevertheless, there are some shortcomings.

One of these has to do with the design of the runway at Loring, which was designed for the B-36: The B-36 has a total takeoff weight of about 400,000 lb, a wingspread of 230 ft, conventional tricycle landing gear with main wheels housed in the wings.

The last of the B-36's left Loring late last year, replaced by the B-52—a jet powered monster that also weighs about 400,000 lb on takeoff, and whose sharply swept-back wings nevertheless spread 186 ft, tip to tip. Because of the relative thinness of the wings, landing gear is carried in tandem under the fuselage. The rigid concrete end pads had to be built to take the impact shock of landings.

The jet engines are virtually vibrationless, so pavement on which the plane stands before takeoff need not resist heavy vibration. But the enormous heat and blast of the six powerful jet engines seriously damage joint filler and asphaltic pavements.

By the same token, the extreme sweep-back of the jet plane's wings has outmoded many of the "nose hangars" built at the base to cover only the forward portion of the planes while they are undergoing routine maintenance.

A problem at both bases is maintenance of the airfield area during the extremely heavy snowfalls of winter. Experiments are now going forward at Loring on means of radiant heating of the runways and taxi areas to combat this hazard.

Loring's residents and administrators have another complaint: the field area is so large that distances between housing sites and facilities, and between facilities themselves, are much too great for foot travel, and a base transportation system has not been too successful. The result is that everyone uses his own automobile, and traffic jams—in a wilderness only 20 miles from the Canadian border—are not unusual several times daily as working shifts change.

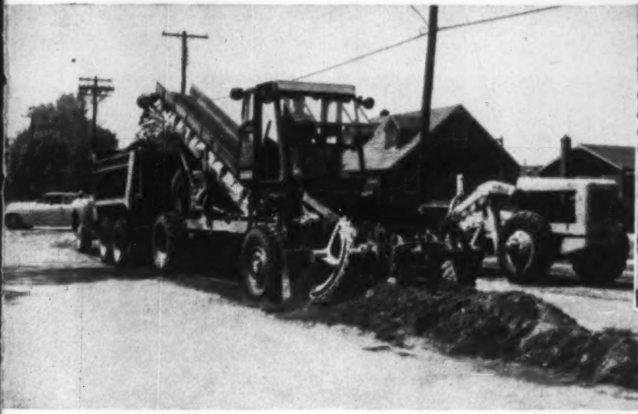
Housing at Loring seems to be adequate for all assigned to the base. It has to be, since no other facilities exist for many miles in any direction. However, some of the stainless steel sandwich panels on the airmen's barracks haven't been too satisfactory. Under the extreme variations of temperature, they tend to pull apart and present a constant calking problem.

A final problem at the northernmost base is water supply. Well fields developed originally to supply the base have proved to be undependable because of the limestone formation underlying the area, which pockets groundwater but doesn't permit infiltration at a fast enough rate to replace the drawdown. Plans are now afoot for development of a surface water supply.

At Portsmouth, where the smaller B-47 is the main arm, there has been little difficulty with the runways and taxiways. The main problem is housing. On the principle of first things first, initial work went into the runways, hangars and other service facilities. Housing—other than some airmen's barracks—is only now beginning to be built. The result has been considerable personal trouble for the more than 5,000 men and their families at the base.

Construction of both bases—and of much other Air Force work in the New England area—is monitored by the Office of the Chief of Staff for Installations, under Maj. Gen. Lee B. Washbourne. Col. Roland H. Cipolla is New England Regional Representative, with a staff of nine officers and nine civilian engineers. Construction is accomplished by private contractors, under supervision of the division engineer of the Army's Corps of Engineers, which acts as construction agency for the Air Force.

All around the town...



Load trucks at lowest cost!

Here's the mobile belt-loader that solves truck-loading problems for those who handle big yardages of loose dirt and aggregates. It's the high-speed, Adams TraveLoader . . . for truck-a-minute loading from stockpile or windrow.

Big capacity cuts costs

TraveLoader gathers and loads up to 600 yards per hour—handles dirt, sand, gravel, crushed stone, slag, topsoil, cinders, snow, and many other materials.

Machine heaps trucks evenly and fast, at lowest-net-cost-per-yard . . . continuously discharges full load of material off belt running at a speed of 450′ per minute. Speedy loading cuts truck waiting-time . . . holds hauling cost to a minimum. With a 40 to 60-second loading cycle, loader handles big jobs fast . . . keeps your jobs on schedule.

Loads in continuous motion

Unlike front-end loaders, TraveLoader works without turns, back-ups, or other waste motions . . . does not need to push against solid backing to load cleanly. Loader moves forward at any of 5 working speeds (25 ft. to 167 ft. per min.). Machine gathers and conveys material from any width up to 8′, and discharges material evenly into trucks. TraveLoader loads into trucks at its rear for minimum road obstruction . . . or, with optional cross-conveyor, into trucks at left and/or right.

Handles many jobs in one day

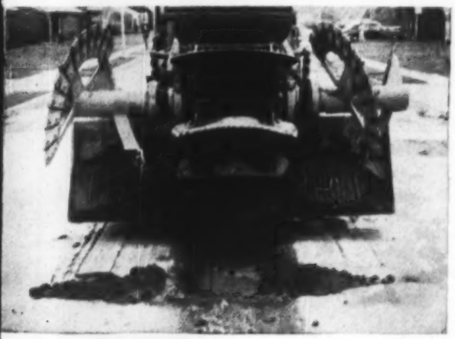
Rubber-tired TraveLoader has 5 travel speeds, moves quickly from job to job at speeds to 26.7 mph . . . from stockpile, to windrow, to bank work. Positive, convenient controls make loading simple, make maneuvering and traveling as safe and easy as driving a truck.

Machine is powered by either 55 hp gasoline or 60 hp diesel engine . . . weighs approx. 16,700 pounds.

Get information without obligation

Write or phone for detailed specifications, and names of users working TraveLoader on loading projects similar to yours. No obligation.

How Radory Construction Co. speeds-up street-repair work



Radory Construction Company, West Hempstead, N.Y., specializes in street repair and repaving work for towns on Long Island. Contractor keeps a number of crews busy on street-repair, maintenance, sealing and oiling, and blacktop paving contracts.

Radory employs several mobile TraveLoaders to load dirt and construction materials into trucks. Often one machine is assigned to a specific job-site for continuous work — such as cleaning-up windrows of surplus fill, or loading stone from off-street stockpiles. Or a machine may work on several projects in one day . . . traveling from one location or materials-yard to another . . . handling many jobs, each at lowest-cost-per-yard loaded.

This contractor has devised a short-cut method for patching pavement after installation of sewers and water lines. TraveLoader is used to do two jobs at one pass — cleaning-up and preparing refilled trenches for patching crew. A special blade . . . as wide as the trench . . . is bolted to regular TraveLoader blade (see illustration at left). After trench has been backfilled and compacted, TraveLoader moves in . . . loads surplus dirt into trucks. On the same pass, special blade automatically digs-out surplus material and grades at proper depth for gravel base and blacktop-patch over trench. Pretty neat . . . and a time-saver, too!

Adams—Trademark AL-1222-H-b

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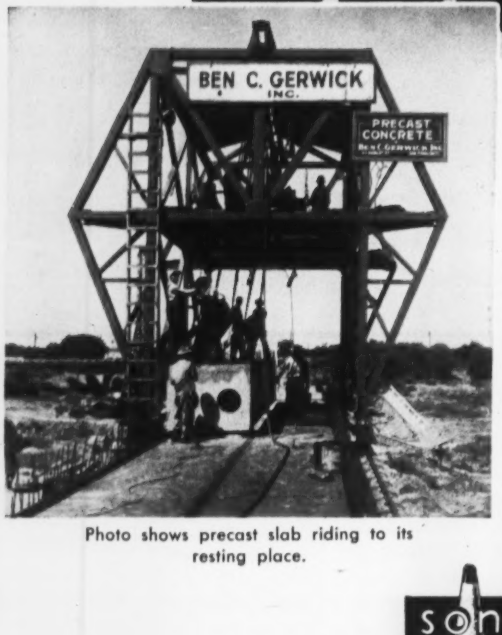
Railroad bridge deck built

Nearly-finished bridge from the underside. Note depth of slabs forming the deck.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PRECAST CONCRETE
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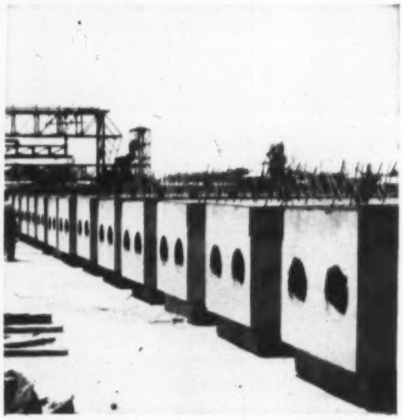
Photo shows precast slab riding to its resting place.



Close-up of voided slabs showing hollows formed by 16" O. D. SONOVOIDS.

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This Western Pacific bridge is the longest all-concrete bridge in the United States. The structure crosses the American River near Yuba City and Marysville, California.

The deck of the approach structures is built of pairs of 55-ton hollow precast concrete slabs throughout the entire length. Each slab is voided with two 16" O. D. SONOVOIDS.

Overhead exposed signal communication wires and power lines have been eliminated by simply running these lines through the "conduit-like" hollow cores of the slabs.

Easy to handle, low-cost Sonoco SONOVOIDS are specifically developed for use in bridge decks, wall, floor, roof and lift slabs; also in concrete piles. For precast units or units cast in place. SONOVOID Fibre Tubes save concrete and reinforcing steel by the displacement of low-working concrete at the neutral axis. Structural strength is not impaired.

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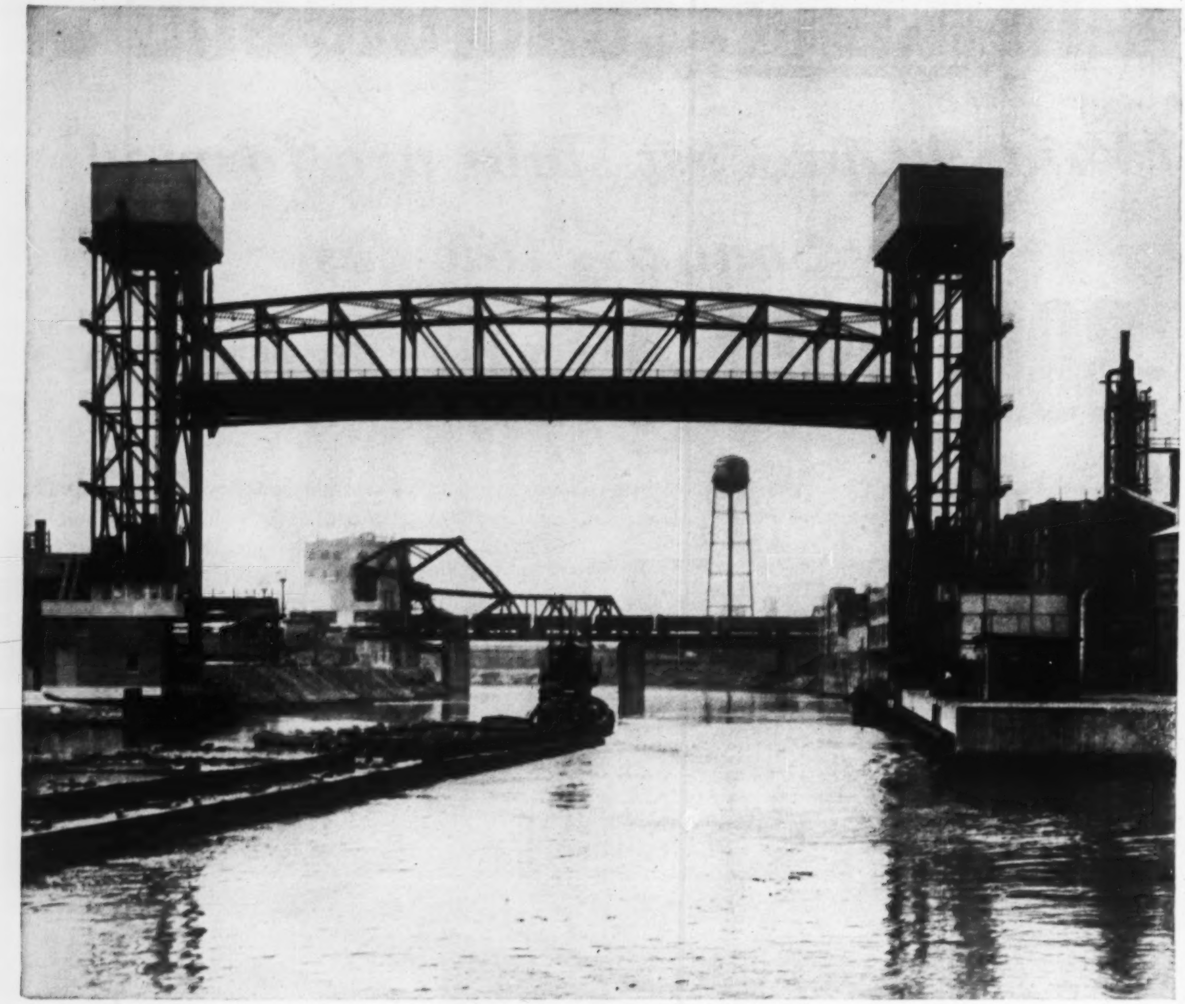

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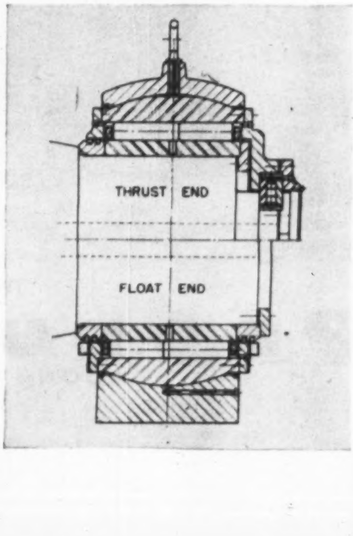
Let a Torrington specialist show you how the operation of a movable span bridge can be improved with TORRINGTON Cylindrical or Spherical Roller Bearings. He has long experience in design and application, and a reputation known the world over.



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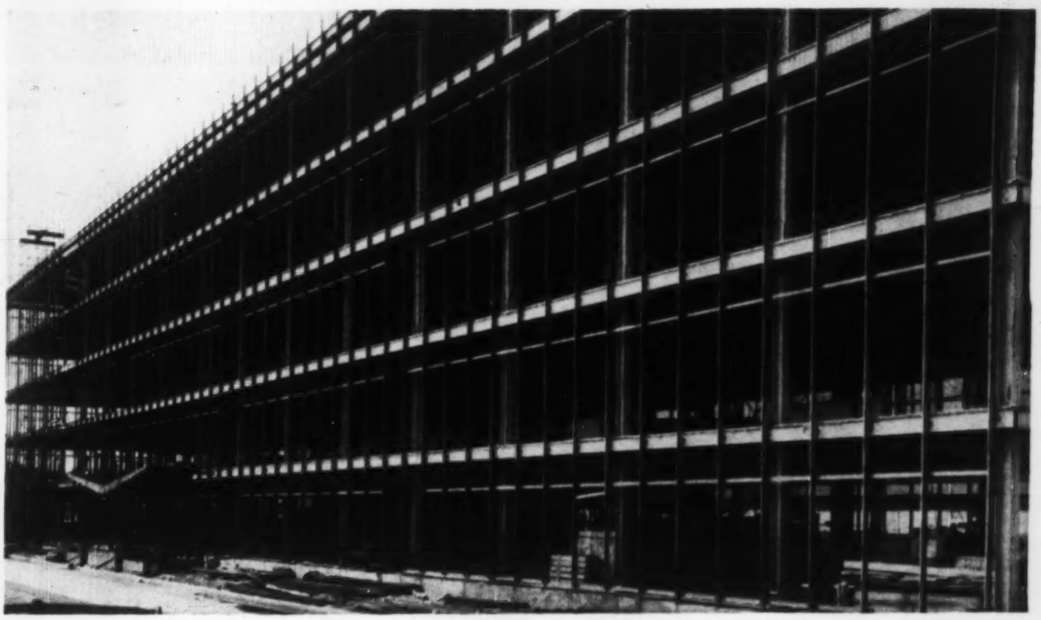
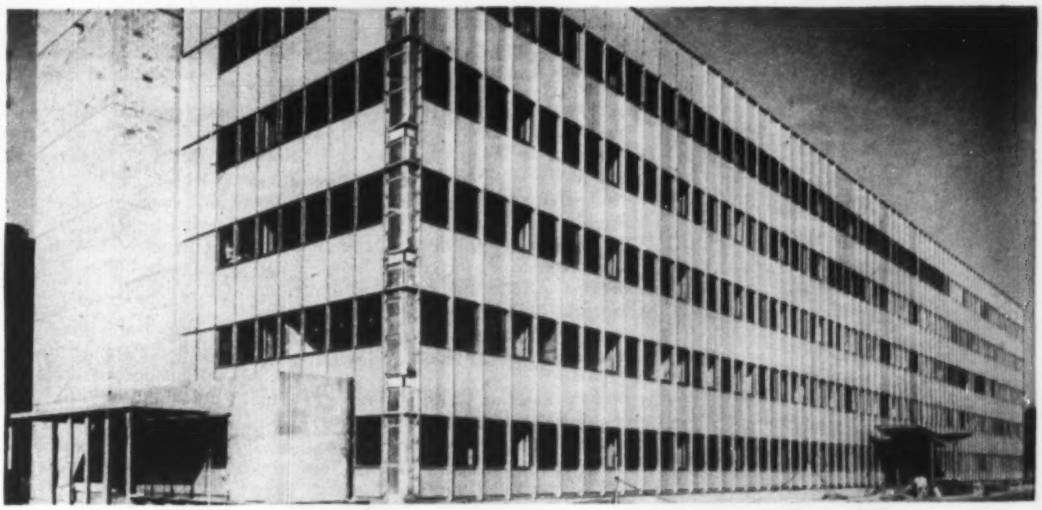


Mullions ready the frame of a steel-mill office building for . . .



. . . Enclosure with sandwich panels that make the structure a . . .

Showcase For Steel Curtain Walls

Completion of the United States Steel Corp.'s steel-walled office building at Homestead District Works has established another metal-clad building on the Pittsburgh scene.

The new five-story, $3.5-million structure is neither the first nor the biggest to have a gleaming weather surface. It does claim, however, an important distinction among multi-story office buildings. It is closed in entirely by steel-faced sandwich panels that incorporate outside and inside wall surfaces and a core of insulating material.

• Panels have double purpose—Selection of the steel panels, according to USS President Clifford F. Hood, was not merely an architectural venture to erect a modern office building. It also marks the kickoff, he said, by USS into a potential half-million-ton yearly market for all-steel curtain walls.

The structure is a showcase for steel curtain walls and a modern office building for Homestead's 800 engineering, clerical and supervisory employees.

• Windows included in panels—It is 331 ft long, 72 ft wide and has a wall area of 61,500 sq ft. All this area is panel construction, including about one-sixth that is glazed. Steel window frames were built in at the factory in 500 panels out of the total of nearly 1,100.

(Continued on page 50)

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STEEL PLATE FABRICATION

- Boiler Casings
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- Flues and Ducts
- Condenser Shells
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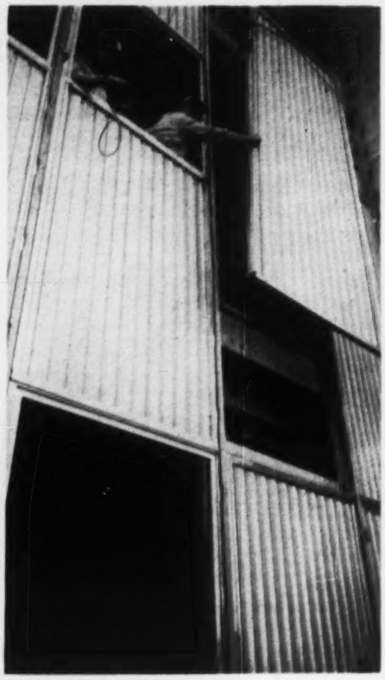
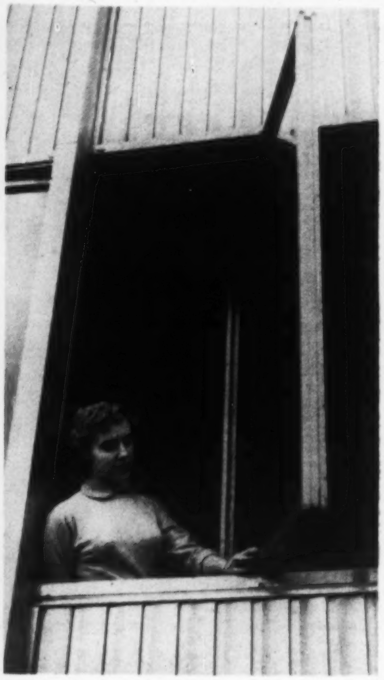
MAHON

. . . Insulation-wise, steel panels rate high



WALL PANELS, 4½x12 ft, were erected 14 a day by a five-man crew.



PIVOTED WINDOW can be rotated 180 deg, cleaned from inside the building.

The building has 120,000 sq ft of floor area. It is completely air-conditioned. Offices and drafting rooms are illuminated by translighted ceilings. Self-service elevators are located at the middle and each end of the building. Space in the building is subdivided by a combination of fixed and movable partitions. And the entrance apron—an outside extension of the lobby floor—will be kept free of snow and ice by embedded radiant coils.

• Two exterior finishes—The wall panels have two types of exterior finish: fluted stainless steel on the front and ends of the building; smooth, blue porcelain-enameled steel on the rear. They also will have two thicknesses—1 13/16 in. for the stainless, 1½ in. for the porcelain enamel (the depth of the flutes makes the difference).

In other respects, however, the panels are similar in construction. Frames are 2½ in. thick—stainless. Panel faces on the room side are cold-rolled sheet—painted. Insulating cores are 1¼-in. glass fiber pads, bonded to the cold-rolled sheet. Window frames and movable sash are stainless steel.

• Vinyl seals joints—Joints between panels and between some of the components of each panel are gasketed with extruded vinyl strips, replaceable without major disassembly. On the exterior of the building the strips are protected by metal battens. Vinyl weather strips also are used to close the gap between the window frame and operating sash.

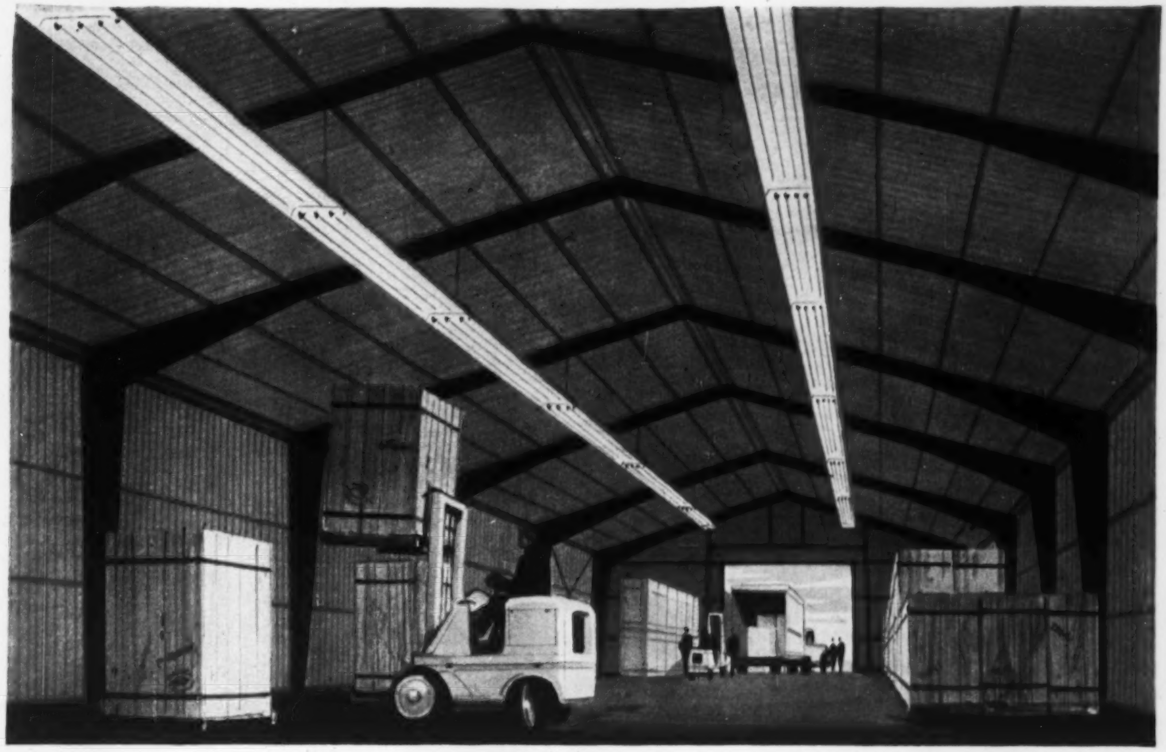
Most panels are 4½ ft wide, 12 ft 2½ in. high (story height is 12 ft 3 in.). But those at the top and bottom of the walls are shorter. A total of 6 tiers of panels covers the full height of the building. The panels weigh about 10 lb per sq ft.

• Windows pivot vertically—Movable windows are vertically pivoted so that both sides can be cleaned from inside the building. In rotating, they clear the window frames completely and can be turned indefinitely in either direction. But in practice, they will be reversed (half turn) for cleaning and then turned back to the original position. This is believed to cause less wear on the vinyl seals.

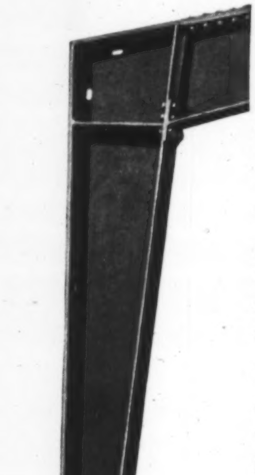
The vinyl seals are extruded shapes, deeply ribbed longitudinally so that the contact surface is a series of thin flexible flaps. Each frame has two rows of the seals around the entire perimeter. One row is located near the exterior side of the frame, the other near the interior. Tests showed air infiltration through the closure to be about 3 cu ft per min per lin ft.

Since the building is completely air-conditioned, the windows won't be opened daily. And they can't be opened accidentally. A release device recessed in the frame must be turned with a special lever to unlock the window.

(*Continued on page 52*)



More storage space at lower cost with new column-free STRAN-STEEL BUILDINGS



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Stran-Steel's clear-span construction is an important feature to remember when you're building a warehouse. This unobstructed interior design gives you more room — wall to wall, floor to ceiling. That means more efficient materials handling, greater storage space.

What's more, Stran-Steel buildings offer many other bonus features which make them ideal for warehousing and materials handling. The rugged all-steel construction is durable, non-combustible, weather-tight and long lasting. *Stran-Satin* exterior walls provide an attractive, luxurious appearance. Pre-engineered and factory-built in 32-, 40-, 50-, 60-, 70-, and 80-ft. widths, these Stran-Steel buildings are quickly erected at low cost.

Up to $25,000 is available to finance these buildings through the Stran-Steel Purchase Plan. As little as 25% initial investment; up to five years to pay. For complete details, call your local Stran-Steel dealer or send for the new Industrial Buildings Catalog.

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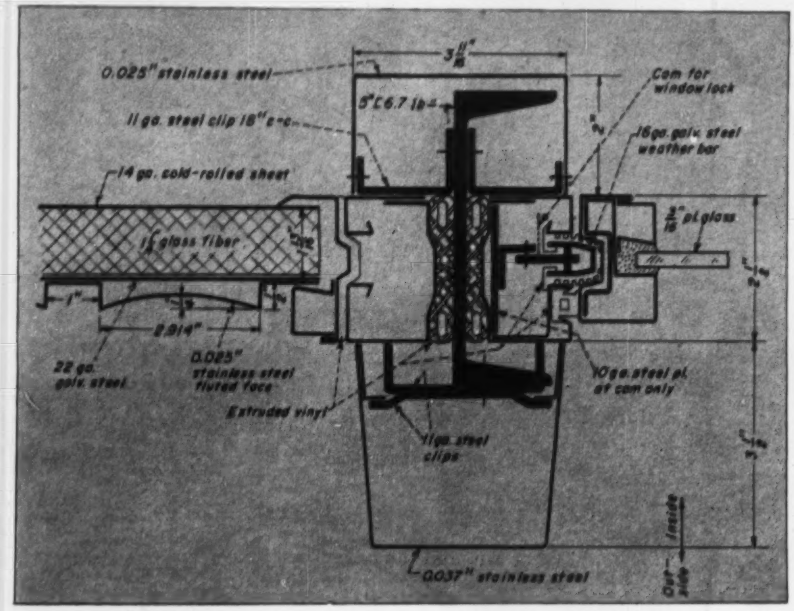
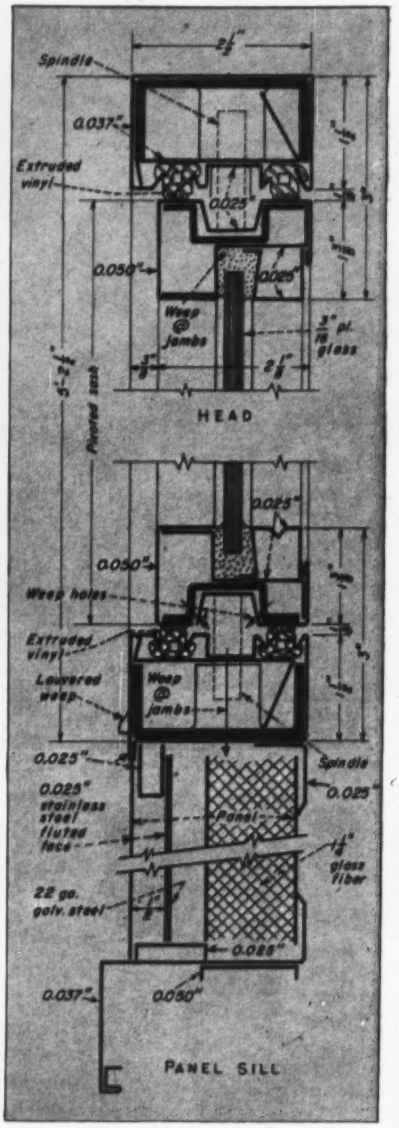
. . . Behind the steel walls, a modern interior


0.025" stainless steel
$3\frac{11}{16}$"
Cam for window lock
5" [6.7 lb
11 ga. steel clip 18" c-c
16 ga. galv. steel weather bar
14 ga. cold-rolled sheet
$\frac{3}{16}$" pl. glass
$1\frac{1}{2}$" glass fiber
1"
2.914"
22 ga. galv. steel
0.025" stainless steel fluted face
Extruded vinyl
10 ga. steel pl. at cam only
11 ga. steel clips
Inside
Outside
0.037" stainless steel

HORIZONTAL SECTION through mullion shows insulated panel (left) and window (right). Tests showed air infiltration to be 3 cu ft per min per lin ft.


$2\frac{1}{2}$"
Spindle
0.037"
Extruded vinyl
0.025"
0.050"
0.025"
Weep @ jambs
$\frac{3}{16}$" pl. glass
$\frac{3}{8}$"
$2\frac{1}{8}$"
5'-2$\frac{1}{2}$"
Pivoted sash
HEAD
0.025"
0.050"
Weep holes
Extruded vinyl
Louvered weep
Weep @ jambs
Spindle
0.025"
0.025" stainless steel fluted face
0.025"
Panel
$1\frac{1}{2}$" glass fiber
22 ga. galv. steel
0.025"
0.037"
0.050"
PANEL SILL

VERTICAL SECTION shows panel construction in glazed and insulated portions.

• Low U factor—The overall heat transmission coefficient U of the unglazed part of the panels is 0.20 Btu per hr per sq ft per deg F. By way of comparison, a typical 8-in. brick wall with an air space and metal lath and plaster on one side has a coefficient of about 0.38 uninsulated and 0.16 with 1 in. of insulation.

The vinyl gaskets between panels seal the joints both at the exterior and interior faces. The interior steel sheet, therefore, acts as a vapor seal. Between the exterior sheet and the insulation is a thin air space. At the bottom of the panels and in transverse frame members weep holes are provided for the escape of any moisture that may condense in the space.

Supporting framework for the panels consists of horizontal steel angles and vertical channels. The panels rest on the angles and are clipped at 2-ft intervals to the channels.

Tests conducted before the job began showed that the panels deflect less than ⅜ in. when they are subjected to a load of 30 psf.

• Decks are concrete—The building frame is riveted steel construction, built for the most part on an 18x18-ft grid. Floors and roof are framed with open-web joists, 16 in. c-c. Decks are concrete—4 in. for floors, 2½ in. for the roof—cast in place on paper-backed wire mesh.

Interior partitions are of two kinds. Fixed-wall construction consists of steel studs, plaster board and plaster. Movable steel partitions, however, subdivide some areas.

• Zoned air conditioning—Climate control in the building works two ways. Interior spaces receive fully conditioned air through ducts from the central cooling plant. In window zones, individual room conditioners receive chilled or hot water from the central plant and humidified or dehumidified air through a duct system.

Construction of the building began in November, 1955; and steel erection got underway last February. The office force will move in next month.

The frame and walls required 610 tons of structural shapes, 173 tons of joists, 70 tons of stainless and 26 tons of porcelain-enameled steel.

• Panel erection, 2.8 man-hours—One 5-man crew erected the curtain-wall panels at the rate of about 14 per day.

The building was designed by Hoffman & Crumpton, Pittsburgh architects. Crump, Inc., also of Pittsburgh, holds the general contract. American Bridge Division of U. S. Steel fabricated and erected the steel. Universal Corp., Dallas, fabricated and erected the curtain-wall panels. Porcelain-enameled sheets were supplied to Universal by Ingram-Richardson Co., Beaver Falls, Pa. The translighted-ceiling contractor is Luminous Ceilings, Inc., of Chicago. Milton Male is project manager for the owner.

Offices and drafting rooms are illuminated by translighted ceilings—fluorescent luminaires mounted above ceilings of corrugated translucent plastic. Illumination intensities in work spaces are 50 or 100 ft-c, depending on the nature of the seeing task. To recover light reflected upward from the top side of the plastic, the underside of the slab and other surfaces above the plastic are painted white.

The luminous ceiling consists of strips of plastic, laid on suspended, light-steel, inverted T sections. When the strips get dirty, they can be rolled up and laundered in a special washing machine.

Floors throughout most of the building are finished with vinyl tile. The floor of the entrance lobby, however, is tiled with terrazzo.

Job-Proved CELOTEX Roof Insulation Tops New York's Socony Mobil Building

80,000 sq. ft. of CELOTEX Preseal! Two critical inches higher than its 45 stories look, the world's biggest metal office building wears the world's finest "liner" under its roof-cap . . . Celotex Preseal Roof Insulation, by New York Roofing Co. BUILDING OWNER: Galbreath Corp., John W. Galbreath and Peter B. Ruffin. ASSOCIATED ARCHITECTS: Harrison & Abramovitz; John B. Peterkin. GENERAL CONTRACTOR: Turner Construction Co.

They could afford only the best! Men responsible for such great projects don't dare gamble. They specify and demand the classic name in modern roof insulation: CELOTEX. Billions of time-tested feet of structural insulation—⅓rd century of experience upholding architects' own standards—make CELOTEX "performance-predictable." Original quality, constantly improved.

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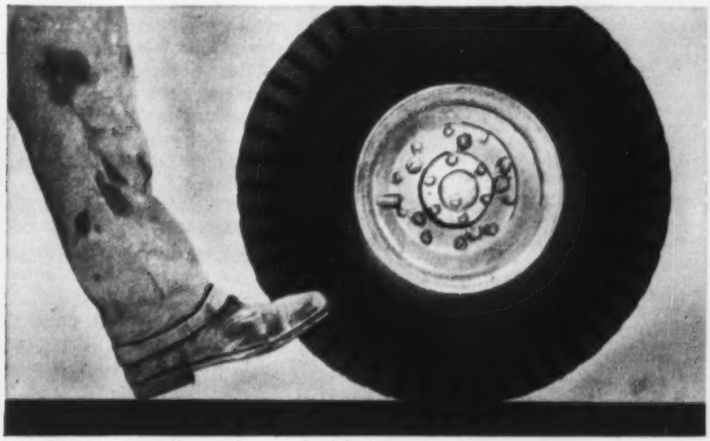
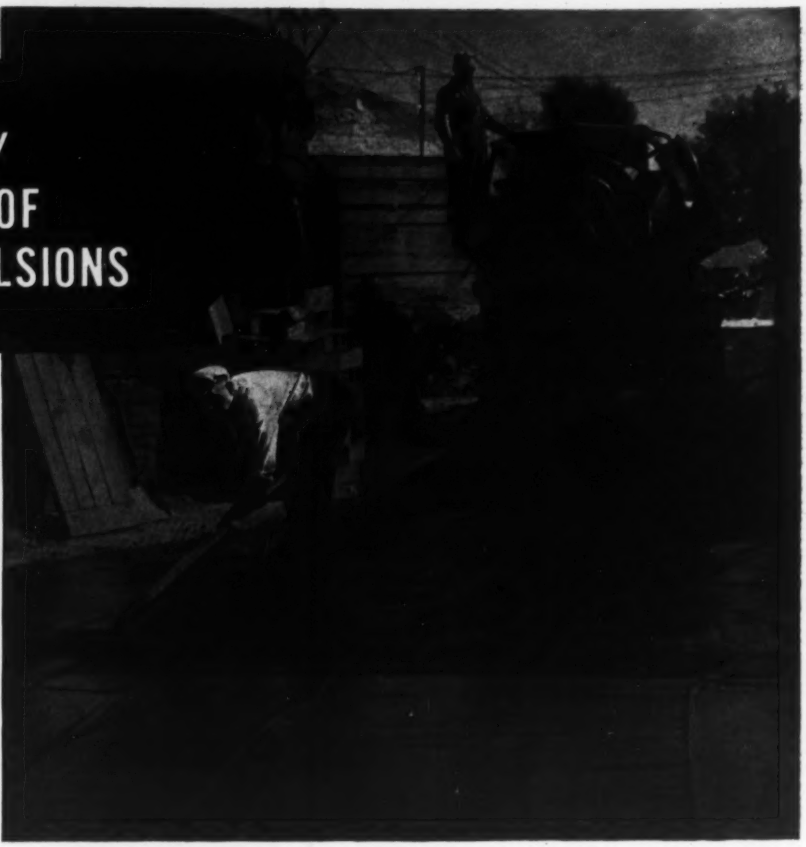
CELOTEX
ROOF INSULATION

Easy to handle, cut, apply. Lightness of weight, structural strength, high insulation efficiency, plus long, low-cost life . . . these are only a few of the advantages you get with Celotex Roof Insulation. Square edges. Snug joints. Ideal surface for mopping and bonding. And, like all Celotex fiberboard products, exclusive Ferox® treatment protects effectively against termites and dry rot.



"Wheeling and Heeling" hold no terrors. Celotex Roof Insulation takes heavy job and maintenance traffic in stride. Strong, rigid, crush-resistant, this Celotex fiberboard is traditionally tough. Mighty hard to damage. No need to worry about punctures, breaks, rips, or depressions that become hidden weak spots under roofing. And its quality-controlled density holds thickness uniform despite load variations. Available in regular type (Regular) and two asphalt-coated types (Channel-Seal and Preseal) that give "raincoat protection" against showers on the job.

For specifications, samples, information manual, write The Celotex Corporation, 120 S. La Salle St., Chicago 3, Illinois



McConnaughay WEATHER-PROOF ASPHALT EMULSIONS

McCONNAUGHAY LICENSEES Operating K. E. McConnaughay Emulsified Asphalt Plants

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Bituminous Materials Co.
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Bituminous Materials Co.
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Bituminous Materials & Supply Co.
415 Maple St., *West Des Moines, Iowa*

Plants:
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Menlo, Iowa
Emulsified Asphalt Co.
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Watertown, New York
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McConnaughay Weather-Proof Asphalt Emulsions offer *high resistance to water during and after construction*... are not washed off during sudden or prolonged rains during or after mixing and spreading; *offer resistance to heat*... do not bleed or soften during hot weather; *offer resistance to cold*... are tough and resilient, not brittle, at temperatures below freezing. All McConnaughay Weather-Proof Emulsions are *available in combination with rubber.*

In mortar mixes, McConnaughay Weather-Proof Emulsions have many protective applications: seal coats for roads and paved surfaces; pressure application to reservoir surfaces for slope stabilization and protection against leakage and erosion; many special uses such as pipe covering, waterproofing, flooring and roofing.

For *erosion control,* McConnaughay Weather-Proof Emulsions are used to bind straw mulch covers for seeded areas; also mixed with soils for sealing of highway banks, railroad right-of-ways, etc. In *reservoir construction,* the emulsion can be mixed with soils and aggregates on bottom and sides, compacted, sealed and the reservoir filled with water immediately. High resistance to erosion and water seepage is assured.

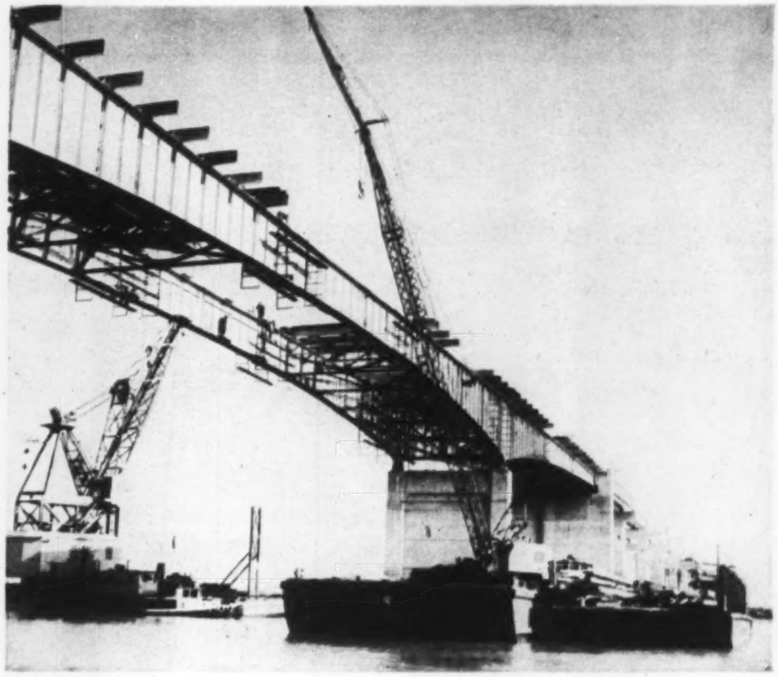
For complete details and specifications, contact your nearest McConnaughay Licensee or write...

SPECIFICATIONS OF THESE COLD-MIX PROCESSES AVAILABLE ON REQUEST

1—Penetration Macadam, 2—Open-Graded Plant Mix, 3—Open-Graded Road Mix, 4—Dense-Graded Plant Mix, 5—Dense-Graded Road Mix, 6—Mat Coat, 7—Seal Coat, 8—Sand Mix, 9—Sand Honing, 10—Patching, 11—Mastic-Mix, 12—Driveway Construction.

K. E. McCONNAUGHAY LAFAYETTE INDIANA

EMULSIFIED ASPHALT *PLANTS AND PROCESSES*



300 ft span of main girders sets . . .

Canadian Plate-Girder Record

Canada's longest plate-girder bridge span is incorporated in a $10 million four-lane highway bridge now nearing completion over the Fraser River in Vancouver, B. C. With a length of 300 ft, the record span is the mid-section of a 3-span, continuous, riveted girder 700 ft long, located 70 ft above the main shipping channel of the waterway.

Side spans of the main girder are 205 ft long. Five 120 ft girder spans support the remainder of the 1,300 ft crossing. Besides the four roadway lanes, the 62 ft deck will also carry two 7 ft walks.

Built for the British Columbia Toll Highways and Bridges Authority, the new deck-girder structure will provide quick access to Vancouver's International Airport and also will be a link in a new express highway system to the border.

The bridge is expected to ease the headaches caused by the present crossing, an inadequate two-lane structure with a swing span. The older bridge suffers frequent damage when tricky currents sweep barges into the swing span or piling.

Main lifts in erecting the new bridge were made with a 60 ton floating derrick. Lighter lifts were handled with a 40 ton crawler crane, operated from a scow. The heaviest lift for the job was 52 tons.

The superstructure, containing 2,000 tons of structural steel, was fabricated and erected by the Dominion Bridge Co.'s Pacific Division, of Vancouver. The firm also furnished 360 tons of bearing piles and 3,500 tons of reinforcing bars for the piers and concrete approaches. The substructure contractor was Gilpin Construction Co., of Vancouver. The bridge was designed by Phillips, Barratt & Partners, also of Vancouver.

Aid From Canada

Two Asian projects helped by Canadian government

Canada's foreign-aid program—it's so-called Colombo Plan for financial aid abroad—is showing results.

West Bengal's recently completed $35.7-million multipurpose Mayurakshi Project had the helping hand of Canadian money. The project's 2,000-kw (4,000-kw peak) hydroelectric plant is fitted with $1.7 million worth of equipment supplied by Canada.

In appreciation for Canadian aid to Bengal—which totals $21 million to date—Mayurakshi's 2,100-ft, 150-ft-high dam has been named Canada Dam.

In addition to the dam and power station, the project includes 1,013-ft Tilpara Barrage and three canals. The canals will irrigate 600,000 acres between June and October and 120,000 acres for the rest of the year.

And—bringing total Canadian assistance to India to $84 million—the Canadian Government recently signed an agreement to supply $21 million of aid for the Kundah hydro electric scheme in Madras State. It will take the form of meeting expenses of Canadian engineering consultants and supplying equipment for the $72-million project.

The Kundah project provides for storing waters of tributaries of the Bhawani River and constructing a conduit system to lead the water along hydraulic drops for power generation.

The first stage includes a combined storage across two streams—Avalanche and Emerald—of 120,000 acre-ft, plus two low pressure tunnels and two powerhouses. Powerhouse No. 1 will utilize a head of 1,180 ft, and No. 2, 2,470 ft. They will be equipped to produce a total of 145,000 kw.

The second stage comprises a storage reservoir of 86,000 acre-ft to be constructed on the Upper Bhawani, as well as a tunnel from this reservoir to the Avalanche Valley. Also, an additional penstock and 35,000-kw unit will be installed at powerhouse No. 2.

Airport Expansion Plans Announced by Canada

The Canadian government has announced an airport expansion program for the fiscal year 1957-58 of more than $38.3 million, an increase of $17.5 million over last year.

Expansion projects will include airport terminals, extension of runways, parking aprons and new hangars.

Among the larger projects of the Department of Transport in Ottawa will be new airport terminal buildings at Ottawa, Gander, Halifax, Winnipeg, Edmonton, Aklavik and Yellowknife. Work also will be continued on new airport buildings and runways at Montreal and Toronto.

(*International continued on page 56*)

CASE
METHOD

Saves time and money . . . We are specialists in

**DRILLED PILING
and
BELLED CAISSONS**

In addition to replacing several piles with one belled caisson thereby eliminating a pile cap, belled caissons are replacing spread footings on more and more jobs because of the economies and the speed-up of the job.

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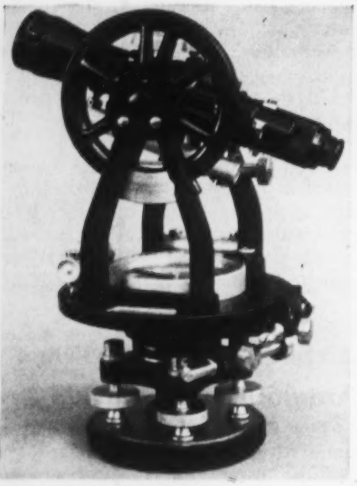
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Model 115

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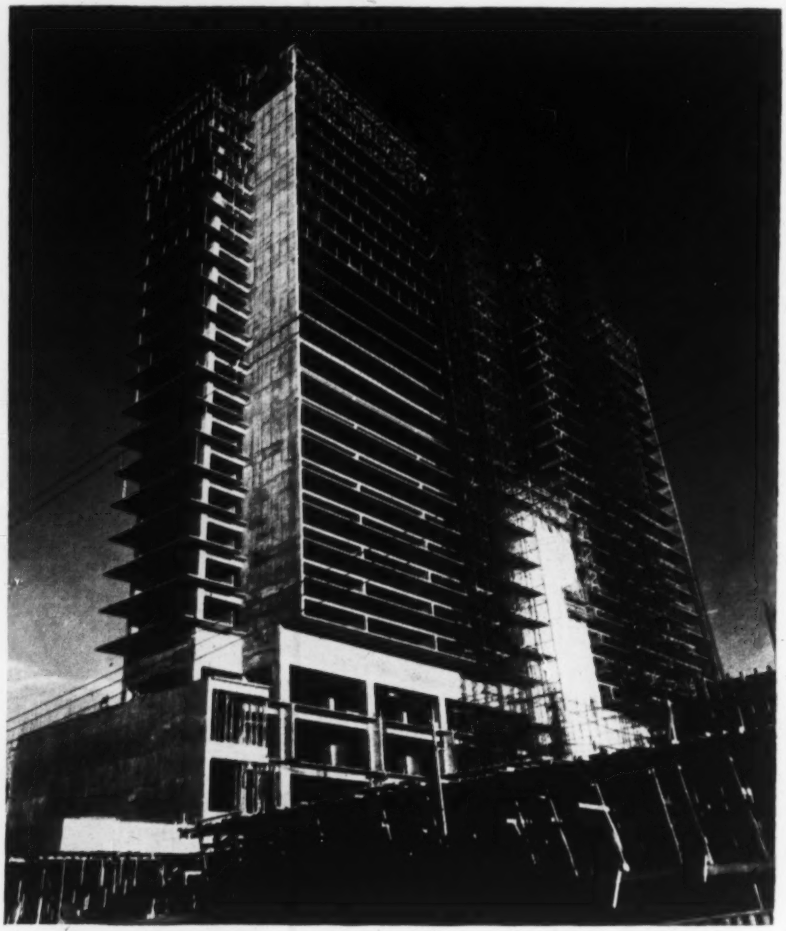


31 Level Hotel Rises in Havana

Officially a 24 story hotel, the Habana Hilton, pictured above and now under construction in the Cuban capital, actually has 31 levels. Above its two basements, the reinforced concrete building has a first floor, main floor with mezzanine, second floor with mezzanine, 21 guest-room floors, cabaret floor and two penthouse levels.

In designing the building, Welton Becket & Associates, Los Angeles architects-engineers, selected column-and-girder framing for the lower floors, which form a broad base for the structure. For the tower, which begins with the second story, it chose bearing-wall construction.

Measuring 327x58 ft in plan, the tower is divided symmetrically by a 50x58-ft core of elevators, stairways and mechanical services. The core is completely enclosed by reinforced concrete bearing walls that extend to the building foundations. Bearing walls also cut across the rest of the tower, on 33 ft and 16 ft centers, but do not extend below the third story.

Completion of the 750-room air-conditioned hotel is scheduled for late this year.

Although the project will be a link in the Hilton International chain, it is financed by the retirement and welfare fund of an association of Cuban food

Coordinator on the site for the hotel corporation is Jose Menendez. Hector Tate is supervising the project for Welton Becket. Jose Villa is structural engineer. The general contractor is Frederick Snare Corp. of New York.

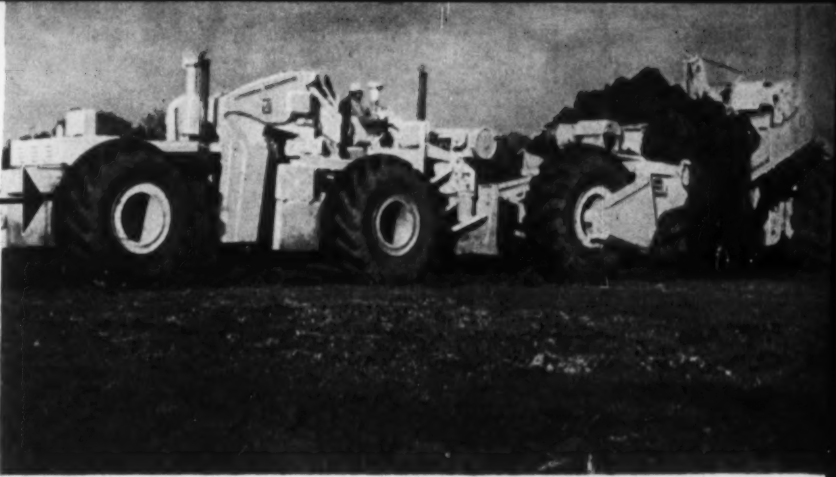
Bogota Airport Will Be Complete by Late 1958

By the end of 1958 Bogota's new airport will be ready to handle the heaviest aircraft now flying.

(*Continued on page 58*)

Want more POWER

for faster scraper loading?



At work on a roadbuilding job in Kansas, Twin-C tractor push-loads B Tournapull with heaped load of sticky gumbo in ½ minute in short loading distance. With powerful 416 hp "Twin-C" behind it, 'Pull's scraper blade easily digs in, carves out tough material.

The best answer to today's need for more effective push-power behind your scrapers is the new 4-wheel drive, twin-engine Twin-C tractor. Highly maneuverable, this giant 416 hp rubber-tired tractor positions fast. One-man with "Twin-C" piles heaping loads in your biggest production scrapers in a hurry . . . often eliminates need for tandem pushers.

Prime factors in rig's exceptional pushing production are its 416 horses, driving 40 tons of machine through 4-wheel drive traction and tires 2½′ wide and over 7′ high.

Twin engines, drive trains, boost push-power

Two independent drive trains, powered by two synchronized 208 hp GM Diesel engines, each have low-pressure, trouble-free torque converters to provide an infinite ratio of speed ranges. These converters automatically transform engine power into most efficient ratio of pulling power and speed to fit your changing demands in the cut. As a result, "Twin-C" delivers maximum drawbar pull, maintains strong, constant contact between pusher and scraper — regardless of scraper loading-speed, material, or underfoot conditions. Recent Dynamometer tests, made in sandy clay footing, with optimum moisture content, showed "Twin-C" registers an *actual* 65,900-lb. drawbar pull in 1st gear!

Power-transfer differentials add tractive power

For best ground-gripping traction in sand, mud, or other loose materials, big-tired "Twin-C" is equipped with 2 exclusive power-transfer differentials — one for each pair of drive-wheels. These differentials automatically transfer power from slipping wheel to wheel on firmest footing . . . keep pusher driving ahead when going is tough.

"Twin-C" . . . easy to control

Simple fingertip electric controls on "Twin-C" respond instantly in any weather. They provide positive power-steer . . . power-positioning of sturdy, concave push-plate. Operator smoothly applies massive pushing power as he spots big (49½″ x 88″) floating push-plate behind scraper push-block . . . always gives you fast, profitable scraper-loading.

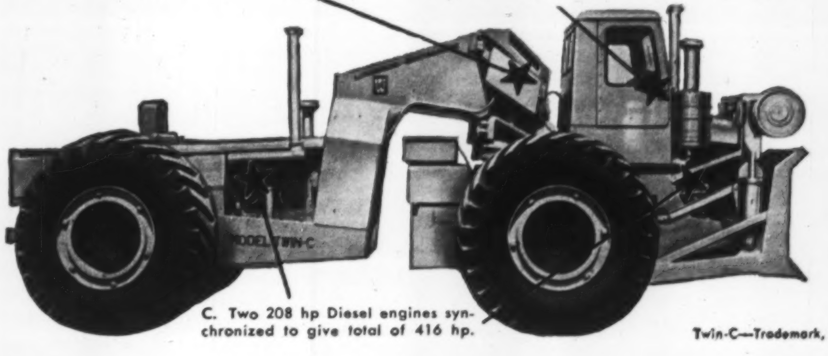
Fast positioning speeds work cycle

Rubber-tired speeds, geared king-pin power-steering, and synchronized constant-mesh transmissions make the "Twin-C" very maneuverable in the cut. Fast forward speeds, to 20 mph, plus easy maneuverability, let tractor operator position fast behind scraper. With power-steer and high reverse speeds, rig loses no time backing up and getting into position for push-loading the next scraper.

Constant-mesh transmissions give any gear ratio instantly. With gears always in mesh, you eliminate delays in changing gears . . . save vital momentum, reduce costly "lug downs" and gear changes that slow down other pushers. "Twin-C's" power, speed and mobility prevent loading delays.

King-sized pushing power for your fleet

If your fleet includes production scrapers of any kind, you will want more information on the powerful, big-capacity LeTourneau-Westinghouse Twin-C tractor. This revolutionary new pusher will increase the length of your work season . . . keep your dirtmoving cycles rolling for better profits. Call or write for more complete details.


A. Geared king-pin power steering.
B. One operator using push-button control perfectly matches direction, power, and speed of scraper.
MODEL TWIN-C
C. Two 208 hp Diesel engines synchronized to give total of 416 hp.

Twin-C—Trademark, Tournapull—Trademark Reg. U.S. Pat. Off. TW-1095-G-b

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Fresh water—rivers, streams, canals, lakes

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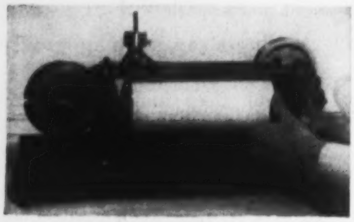
Gurley Current Meters have been the standard of the profession since 1870. Highly-standardized, easily-disassembled for cleaning...simple, precise and rugged. Write for "Gurley Current Meters" (Bulletin No. 700).

Gurley Graphic Water Level Recorders



Continuous record on graph chart for 24 hours or 8 days. Positive response to fluctuation by float, perforated tape and sprocket wheel. Finest quality "Chelsea" marine clock. Metal base and cover. Made of non-corrosive materials throughout. Ranges 1 to 40 ft., or 30 cm. to 12 meters.

Use Gurley Graphic Water Level Recorders when you need dependable records of reservoirs, hydro plants, sewers and sewage systems, irrigation and stream gaging. *Write for Bulletin No. 50 and details on Gurley Water Level Recorders.*

GURLEY

W. & L. E. GURLEY HYDRAULIC INSTRUMENTS DIVISION
TROY, N. Y.

Gurley—Since 1845

Only about 10 minutes driving time from the business section of Bogota, the airport has been designed by Empresa Colombiana de Aerodromas, an autonomous government agency.

ECA, under the direction of Col. Jorge Tellez, has planned the location of this facility so that it can be used in any weather. However, the altitude—8,600 ft above sea level—will limit the gross loads of planes that may use the field.

The new airport is 8 miles west of Bogota and will be connected to the city by a new highway now under construction.

Only a single runway will be constructed as an initial step, although a second one is planned later. The single runway will be 12,350 ft long and 200 ft wide, with a taxiway of the same length. Surface of the runway will be reinforced concrete, 13 in. thick at the ends and 11 in. thick in the center.

A passenger terminal was designed by Steward & Skinner, of Miami, Fla., and structural engineering for the building was done by the Bogota firm of Cueller Serrano Gomez & Cia. The field will also contain three large hangars.

30 Water and Power Projects In Argentine Emergency Plan

The Argentine government has opened, by executive decree, a credit of $219 million for immediate construction of 30 power and water projects.

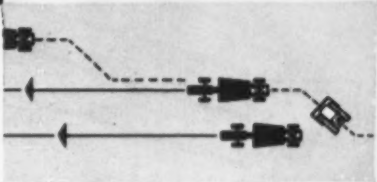
The allocation is to be divided as follows: hydroelectric plants, $80 million; thermoelectric plants, $68.3 million; flood control projects, $43.9 million; irrigation projects, $12.8 million; transmission lines, $13.9 million.

Included in a total of 10 hydroelectric plants are the Agua del Toro plant, Mendoza, $21 million; El Nihuil Plant No. 3, Mendoza, $13.8 million; Huelches plant, Rio Negro and La Pampa, $11 million. Among the flood control projects are Huelches Dam, to cost $17 million, and Caba Corral Dam at Salta, also $17 million.

The new funds do not include erection of the giant power plant for the City of Buenos Aires for which plans already have been announced.

Putting execution of the projects on an emergency basis, the government has declared priority for transportation of necessary machinery and equipment on the country's overtaxed railway system. It also will allow all imported components to enter the country duty-free, plus any necessary building equipment for the duration of the job.

Step-loading makes maximum use of one pusher. Each Tournapull positions to start load where preceding unit finishes. Pusher merely has to switch to the side to reposition for next push.



How to improve timing for more yards per day

Whenever you see a line of scrapers waiting for the pusher (or a line of trucks waiting at the shovel) you are watching good dollars go down the drain. It gives the waiting operators time for a cigarette, but . . . for the guy who pays the bills . . . it's time for aspirin.

Next time it happens to you, here are some ideas collected from other contractor-owners that may be of help.

1. You may, of course, have an unbalanced fleet . . . not enough pusher-capacity for size of your scraper-fleet and length of haul. If you are sure that's the problem, maybe you can dig up some extra pusher help 'til the haul lengthens out for balanced operation. If you have a high-speed, rubber-tired tractor, or a near-by crawler, or a grader with push-plate, move one of these in for temporary pusher service. It's cheaper to have an extra pusher waiting a bit between loads than having 2 or 3 scrapers waiting for a pusher. Or, if you can't help with an extra pusher, perhaps it's a good time to send your scrapers in to the shop, one at a time, for a tune-up.

2. But, remember, it is also possible to have haulers waiting on a perfectly balanced operation. That may be due to a lot of things . . . but once bunched, they tend to stay bunched. So, at the borrow, speed up that lead machine by cutting his load a little light. Then slow down the tail-enders by piling on an extra yard or two.

3. On the dump, spread the lead-scraper load close in, send the others as far out as you can use dirt.

4. Tell lead-scraper operators to "dump her fast and deep" . . . never mind the spread. Then spread that lead-load with one of the tail-enders after it dumps its own load.

5. Have scrapers that are trailing the parade slow-up to smooth the haul-road on return trip. Incidentally, a good, fast haul-road pays for all the cost of maintenance in extra yards delivered and reduced machine repair-costs. Operators also give better cooperation when they have good smooth roads for hauling.

6. Check the "slow" scrapers that are holding up the parade . . . be sure they are mechanically in good order and able to "keep up". Maybe you can switch operators from one of the fast "tail-enders" with the slow-going "leader". This may help uncover a sluggish machine or inspire better effort from a slow operator. If you find you have a slow machine, take it out of line and get it fixed!

7. Do all you can to develop "team-work" among your operators. Sell them on synchronized cycles with even spacing at maximum speed. Post records of daily production. Let your men see who turns in the best results. You can be sure that each man will want to be "on top" in the race for bigger production, and he will be receptive to ideas you can advance to help him get more pay-yards per day.

If you would like copies of this article for distribution within your own organization, drop us a line and we'll be glad to send any quantity you need. An editorial article on this important subject will appear in *Co-operator*, our own magazine for operators and mechanics. Copies of this publication will be mailed to your operators if you will send us their names and addresses.

Smaller scrapers can be push-loaded by graders as well as crawlers and rubber-tired tractors. Here a large Adams grader, equipped with push-plate, helps D Tournapull pick up capacity load at housing project site.

Tournapull—Trademark Reg. U.S. Pat. Off. G-984-Q-b

LeTourneau-WESTINGHOUSE Company, PEORIA, ILLINOIS
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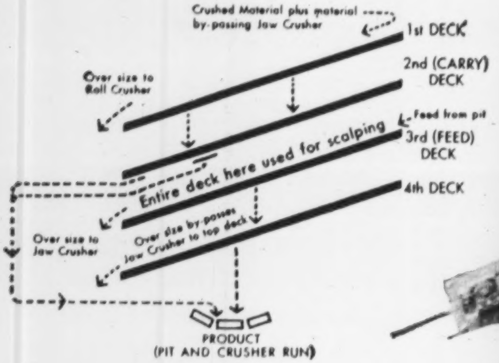
WHERE QUALITY IS A HABIT

Now you can produce up to 4 sizes of graded material at the same time ...*from a single plant*

FULL DECK SCALPING CAPACITY

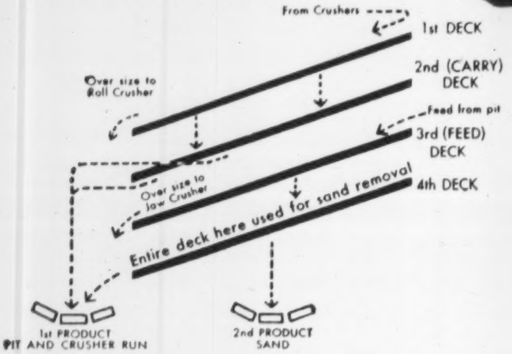
By using a full screen deck for scalping, pit run material that can be handled by the roll crusher is by-passed *around* jaw. Thus you get *full* use from each crusher.



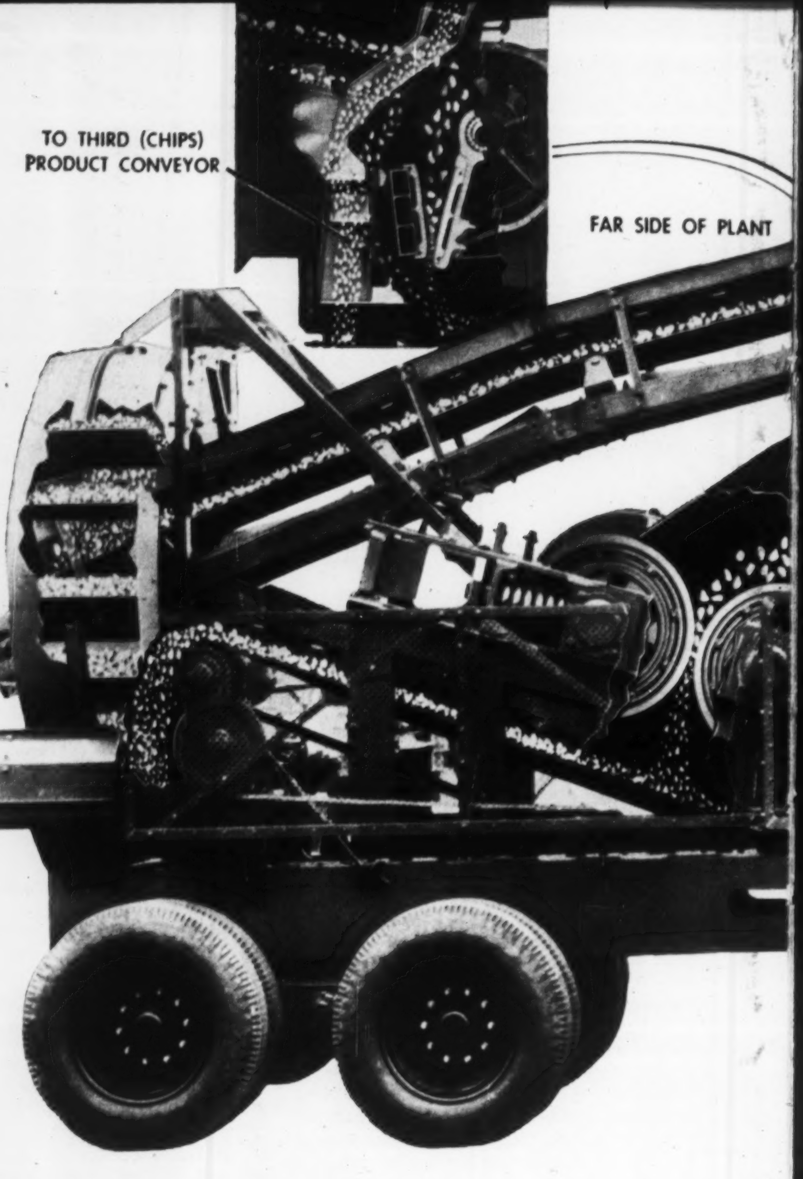
Crushed Material plus material by-passing Jaw Crusher
1st DECK
2nd (CARRY) DECK
Over size to Roll Crusher
Feed from pit
3rd (FEED) DECK
Entire deck here used for scalping
4th DECK
Over size to Jaw Crusher
Over size by-passes Jaw Crusher to top deck
PRODUCT (PIT AND CRUSHER RUN)

FULL DECK SAND REMOVAL

A full screen deck can be used for sand removal ... a big factor in meeting specifications when pit run contains a high proportion of fines.



From Crushers
1st DECK
2nd (CARRY) DECK
Over size to Roll Crusher
Feed from pit
3rd (FEED) DECK
Over size to Jaw Crusher
4th DECK
Entire deck here used for sand removal
1st PRODUCT PIT AND CRUSHER RUN
2nd PRODUCT SAND



TO THIRD (CHIPS) PRODUCT CONVEYOR
FAR SIDE OF PLANT

New multiple-production plant has king-size 4-deck screen for greater output, flexibility

PRODUCTION INCREASED EVEN MORE BECAUSE SMALLER ROCK BY-PASSES THE JAW CRUSHER

Here's the new king of portable crushing plants . . . a plant able to turn out 4 different sizes of material at the same time . . . *and with greater capacity than any other portable plant you can buy!*

These are strong statements, but field reports on performance of the new PIONEER 44-45 Plant series substantiate every word.

How crusher capacity was increased. These new giant-capacity plants have large capacity units. The 4' x 12' 4-deck vibrating screen is the largest used on any portable plant. The big 1036 jaw crusher and large roll crusher (3024 on the 44V and 4022 on the 45V) give plenty of crushing capacity.

But even more important is the high efficiency of the plant. For example, pit run material which can be handled by the roll crusher may be by-passed around the jaw *by using part or all the third deck as a scalping screen.*

Thus, jaw and roll crushers can be used 100% for crushing. Furthermore, the operator can equalize the load between crushers by adjusting the jaw setting while plant is in operation.

Even though the nature of pit run varies from time to time, the operator can thus keep each crusher working at full capacity . . . without even leaving his platform or stopping the plant.

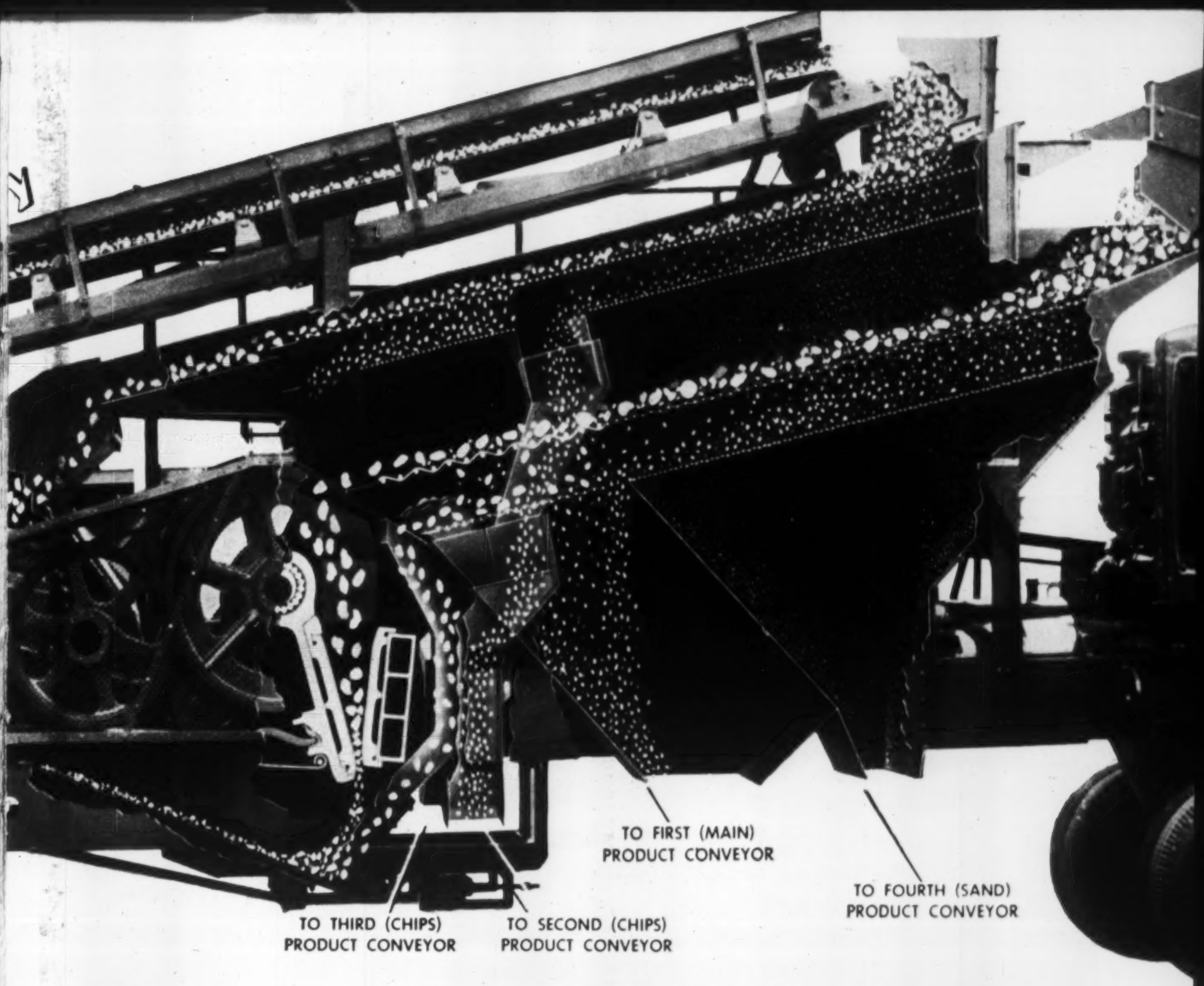
How effective screening area was doubled. Pit run is fed to the *third* deck and material from crushers is screened on top decks. Because first and second decks are available for sizing material from the crushers, these new plants *give double the effective screening area* found in any other popular make plant.

A full sand screening deck is provided for quick sand removal if the pit run has a high proportion of fines.

Produces 4 sizes of aggregates at same time. With their 4-deck screen, unique spouting arrangement, and ingenious method of routing material, these PIONEER Plants can produce up to 4 different sizes of material at the same time with close control of gradation.

Actually, 2 different sizes of fractured chips can be produced simultaneously without addition of extra equipment. Further, the chute-and-hopper arrangement makes it easy to either blend crushed material with pit run or remove each product separately.

Nine basic screen set-ups. With 9 basic screen arrangements to choose from, the operator is generally able to meet


TO FIRST (MAIN) PRODUCT CONVEYOR
TO FOURTH (SAND) PRODUCT CONVEYOR
TO THIRD (CHIPS) PRODUCT CONVEYOR
TO SECOND (CHIPS) PRODUCT CONVEYOR

the most exacting aggregates specifications regardless of pit conditions.

New screen suspension absorbs vibration. Instead of being mounted rigidly on its base in the usual manner, the big 4-deck screen floats on a dual set of heavy coiled springs mounted at each corner of the main screen frame.

This new and exclusive PIONEER feature avoids transferring vibration to the supporting structure and also increases screening efficiency.

Meets weight, height, width, limits. With an approximate equalizer loading of 34,000 lbs., plants will comply with most highway load limits.

Travel length is only 32′3″, width 9′6″. Travel height is approximately 13′, operating height 14′8″.

44 and 45 Series Plants are available with either mechanical or electric drives except that jaw and roll crushers are always mechanically driven.

Typical performance report: Near Yuma, Arizona, Arrow Construction Company's 44V (shown above) is producing road materials at a 435 tph clip. 350 tph consists of 1½″ to 3″ aggregates for base course, 9 tph of ⅜″ to No. 10, and 75 tph sand.

Walter Norton, the owner, compares his new 44V with previous plants and reports, "In our opinion the PIONEER 44V *is the best portable plant* ever built".

If you, too, wish to lower your cost-per-hour of producing aggregates, it will pay you to see your PIONEER Distributor or write Pioneer Engineering, Division of Poor & Company, Inc., Minneapolis 14, Minnesota.

Pioneer
ENGINEERING
Division of Poor & Company, Inc.
MINNEAPOLIS 14, MINNESOTA

"Reinforcing rods were set and concrete poured almost the day after engineering details were available," cites Mr. M. Lapidus, architect for Miami Beach's luxurious new Eden Roc Hotel. In just 13 weeks all 14 floors of the 401-room structure were up . . . with reinforced concrete. The result: incalculable savings in time and extra hotel revenue. The design flexibility of the medium is shown "in the interesting form of the balconies, various projections and overhangs which could only have been achieved with reinforced concrete," further states Mr. Lapidus. On important projects from coast to coast, reinforced concrete is providing better structures for less money. It is inherently firesafe, and highly resistant to wind, shock, and quake. On your *next* job, design for reinforced concrete.

14 floors in 13 weeks with REINFORCED CONCRETE

"... provides incalculable savings in time and in extra hotel revenue"

SAYS MR. M. LAPIDUS, ARCHITECT
for the elegant Eden Roc Hotel, Miami Beach, Florida

Eden Roc

Hotel, Miami Beach
Harry Mufson, President

Morris Lapidus
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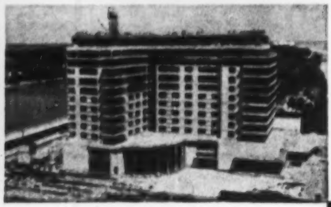
June 24



...7 weeks later

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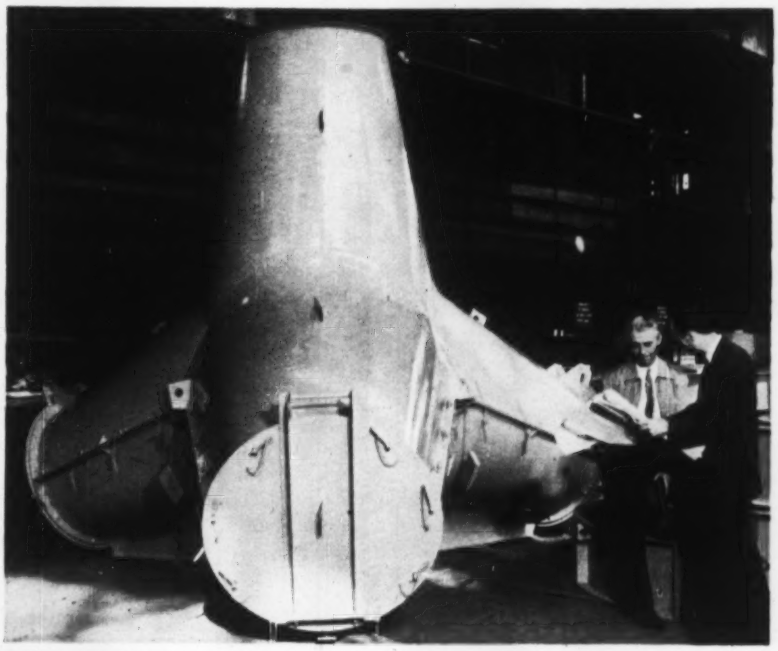

THE TETRAPOD, employed successfully in breakwater construction, now can be mass produced in any size up to 31 tons using new manufactured steel forms.

Tetrapod Forms Now on Market

Steel forms for mass producing cast tetrapods, the newest idea in breakwater construction in the U. S., now are being fabricated by the Steel Forms Department of Blaw-Knox Co., Pittsburgh.

Difficult to visualize, the tetrapod is an integrally cast, four-armed block. Each of the identical arms have the shape of truncated cones and protrude from a central core.

It was developed and first used about 10 years ago by the Neyrpic Laboratory at Grenoble, France.

Fundamental advantages of the tetrapods are that less volume of rock and concrete is required. Other advantages cited by Blaw-Knox are that work can be carried out year-around in most areas, casting during inclement weather and placing the "pods" when weather permits. In addition to this, handling the man-made tetrapods poses much less a problem to construction men than procuring, transporting and placing armor stone.

The forms are designed in two sections. The top two-thirds of the tetrapod surface, including one full arm and three half-arms. The bottom section consists of three half arms. Hinged bulkheads close the arms.

While the ratio of bottoms to tops change according to the mix selected, three bottoms normally are supplied for each top. Top sections are stripped when the pour has set up, leaving the tetrapod resting on the lower half to cure.

The top section is equipped with lifting eyes that are readily accessible from ground level. Wedges attached by chains to the top portion of the form are used to hold the two sections together during pouring. When the pour has set up, the wedges are removed and used for stripping the top section. No screws or bolts are used on the forms. Blaw-Knox Co., 300 Sixth Ave., Pittsburgh 22, Pa.

Low-Friction Bearing Plate Has Oil-Impregnated Face

Encouraged by a new cost-cutting development in Oilite, an oil-impregnated bronze used for years as permanently lubricated machine parts, Chrysler Corp.'s Amplex Division is eyeing sales possibilities of the material as low-friction bearing plates for sliding bridge connections.

Actually, the product has been used for that purpose to a limited extent in the past, but its relatively high cost in the sizes and thicknesses needed for bearing plates has discouraged large-scale use in construction. Now, however, it is available at sharply reduced cost as a $\frac{1}{16}$ in. or $\frac{3}{32}$ in. layer bonded to a steel plate of the required thickness. Shear strength of the bond plane is said to be 1,700 psi.

Made from powdered bronze, Oilite is highly porous. After impregnation it contains about 20% oil by volume. The coefficient of static friction for steel on Oilite is 0.10. Amplex Division, Chrysler Corp., Detroit 31, Mich.

Air-Powered Sump Pumps Start Under Full Loads

Two new self-priming, air-powered sump pumps have capacities ranging from 222 gpm at a 30 ft head to 20 gpm at a 200 ft head, according to the manufacturer.

The pumps weigh approximately 50 lb and operate on pressures of 85 psi. One-piece housings contain vane type motors and impeller type centrifugal pumps. Pumps are said to operate when fully submerged and to start under full loads. They can be used for pumping water, oil, sewage and moderately heavy sludge.

The LPC-21 has a $2\frac{1}{2}$ in. water dis-

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the Cleveland 92 "Baby Digger"
digs more trench
. . . in more places
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THAT TREE LAWN is really *narrow* but the compact maneuverable 92 is doing a neat job of digging from driveway to driveway. The operator sets in and lifts out the digging wheel with speed and safety because the 92 gives him full job visibility and fast accurate boom hoist control. Synchronized wheel and conveyor speeds permit precision placement of spoil. No damage to curb, sidewalk or driveways either, thanks to the 92's perfect balance on long, smooth, non-clog crawlers—a real public relations asset.

★ Only 54" wide over crawlers
★ Digs 10" to 20" wide
★ Digs to 5' deep
★ Power-shift conveyor
★ Reversible discharge
★ Digs all soils
★ Digs in any weather
★ Portable, at legal limit speeds

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Good Everywhere

charge and the LPC-41, a 1½ in. discharge. Two LPC-21 pumps can be hooked up in series to provide a high head unit with greatly increased capacity, says the manufacturer. ATLAS COPCO EASTERN, INC., 151 LINWOOD AVE., PATERSON, N. J.

QUIET
HOSPITAL
Please
DO NOT
SOUND HORN
Thor
EFFECTIVE

Muffler Developed to Cut Noise of Paving Breaker

Engineers of Thor Power Tool Co. have developed a muffle cover for the company's Model 25 paving breaker.

Company engineers say that the new cover reduces air hammer noise intensity up to 55%. The new accessory—a thick, double jacket of sound-proofing materials that is fitted snugly around the breaker—is said to effectively reduce the exhaust noise and the sharp clang of the piston hammer hitting the tappet. THOR POWER TOOL CO., AURORA, ILL.

Side-Coiling Partitions Can Separate Large Areas

Openings up to 22 ft high and 130 ft wide can be closed by wood side-coiling partitions. Slats are vertical-grained 1x2 in. Douglas fir, cedar or other suitable wood. Aluminum meeting stiles are fitted with rubber nosings for tight closure.

The upper track can be mounted within or below ceiling or lintel or to one side of lintel. Coil boxes can be installed inside or outside of wall spaces. Single doors up to 66 ft wide or double doors up to 130 ft wide may be provided. COOKSON CO., 1525 CORTLAND AVE., SAN FRANCISCO, CALIF.

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OZALID STREAMLINER 200

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Men and Jobs

Asphalt Engineer

Specifications author has had long highway career

Arvin S. Wellborn, whose job as Chief Engineer of The Asphalt Institute brought him into the news this week (see p. 24), has headed the institute's engineering staff since July, 1953 after a long career in the highway field.

A native of Louisiana, Wellborn graduated as a civil engineer from the University of Arkansas, and joined the Arkansas highway department in 1933 as an engineer in the department of materials and tests. He remained with the Arkansas department until 1940, when he had achieved the title of Soils Engineer, and was credited with much pioneering work in connection with asphalt soil stabilization.

After two years as chief engineer for a paving concern, Wellborn joined the U. S. Navy in 1942, serving in the South Pacific theater with the rank of lieutenant commander. At the end of the war, he spent a year in general contracting, then was employed by the Navy as a civilian, in 1947, as engineer in charge of design and construction of airfields in Cuba.

He joined The Asphalt Institute in 1949, as managing engineer in the Pacific Coast division, with headquarters at San Francisco.

AEC's Schenectady Office Gets Technical Advisors

The New England Interstate Water Pollution Control Commission has designated a technical advisory board to serve in an advisory and liaison capacity to the Atomic Energy Commission's Schenectady operations office.

The board will work closely with the Schenectady office on control of radioactive wastes in the New England area.

Members of the advisory board are: **William A. Healy,** chairman-technical secretary, New Hampshire Water Pollution Commission; **Warren J. Scott,** director, Bureau of Sanitary Engineering, Connecticut Department of Health; **William S. Wise,** chairman, New England Interstate Water Pollution Control Commission and director, Connecticut State Water Commission; **Raeburn W. MacDonald,** chief engineer, Maine Water Improvement Commission; **Clarence I. Sterling, Jr.,** chief engineer, Massachusetts Department of Public Health; **Earl Devendorf,** director, Bureau of Environmental Sanitation, New York State Department of Health; **Walter J. Shea,** chief, Division of Sanitary Engineering, Rhode Island State Department of Health; **R. W. Thieme,** Commissioner of Water Resources, Vermont State Water Conservation Board.

New Haven Consultants Name New Vice President

Theodore F. Collier has been named vice president of Westcott & Mapes, Inc., a New Haven, Conn., consulting firm. In his new capacity he will continue to supervise all civil, structural and highway engineering of the firm.

Since 1954 Collier has been project engineer for the joint office of Westcott & Mapes and the New York firm of Seelye, Stevenson, Value & Knecht. A 1929 graduate of the University of Illinois, he came to Westcott & Mapes from Sanderson & Porter, power plant and industrial engineers.

Assistant Chief Engineer For Sanitation Commission

Thomas R. Glenn, Jr., has been appointed assistant chief engineer of the Interstate Sanitation Commission. The commission—Seth G. Hess is director and chief engineer—operates under a tri-state compact by New York, New Jersey and Connecticut for abatement of pollution in the waters of the metropolitan area. It has recently undertaken a study of smoke and air pollution.

Glenn was a member of the civil engineering department at Rutgers University, where he taught both graduate and undergraduate courses in sanitary engineering. He also taught short courses given at Rutgers for waterworks and sewage treatment plant operators.

Glenn received a BS in chemical engineering from the University of Texas and an MS in sanitary science from New York University.

Watstein Named Structural Chief at Standards Bureau

David Watstein has been appointed chief of the structural engineering section of the Building Technology Division at the National Bureau of Standards.

Formerly acting chief of the section, he will continue to direct the work to secure basic data on properties of masonry, concrete and other structural materials.

Born in Russia in 1906, Watstein received a BS in civil engineering from the University of California in 1930 and an MA in physics from George Washington University in 1940.

He joined the NBS in 1930 in the concreting materials section, and transferred to the structural engineering section in 1935 to conduct research on the physical properties of reinforced concrete and masonry. He was appointed assistant chief of the section in 1951.

Watstein is a member of the Society for Experimental Stress Analysis and the Building Institute of the National Research Council. He also has been active in the American Concrete Institute committee on the development of standards for deformed reinforcing bars and bond test.

FOR REMOTE CONTROL JOBS on a great variety of CONSTRUCTION EQUIPMENT

TRU-LAY *Flexible* PUSH-PULLS

are Dependable and Accurate even under the most adverse conditions. They perform effectively under extremes of Heat or Cold . . . from jet engine temperatures to 70° below zero F. The inner, working member (lubricated for life during assembly) is fully protected by the tough, flexible conduit. Abrasive dusts, dirt and moisture are sealed out. Fittings are cold swaged to make them integral parts of the control unit. It is a matter of record that we have never heard of a TRU-LAY *flexible* PUSH-PULL wearing out in normal service. Use of these versatile, simple and rugged controls means the virtual Elimination of Maintenance.

Widely Used on Construction Equipment

Adaptability to all sorts of mechanical situations explains, in large measure, the wide-spread use of TRU-LAY PUSH-PULLS on Tractors and their accessories, Power Shovels, Winches, Road Graders, Road Oilers, Dump Trucks, Snow Plows, Engine-driven Pumps, Rock Crushers, etc.

On Construction Equipment these dependable Push-Pulls are used for the remote control of Hydraulic and Air Valves, Brakes, Clutches, Transmissions, Throttles, Chokes, Governors, Power Take-Offs, and on many other applications.

TRU-LAY PUSH-PULLS are precision products, not gadgets. They provide positive remote-action whether anchorages are fixed or movable . . . for light loads or loads up to 1,000 lbs. . . . and they are effective over short or long distances up to 150 feet or more.

For full details, write for DATA FILE.

***Advantages** of Tru-Lay Push-Pull flexibility and simplicity are pictured below*

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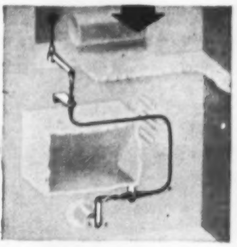
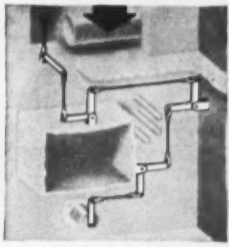


MECHANICAL LINKAGES

Complex • Many Parts
Many Points of Wear • Increasing Back-Lash • Loss of
Accuracy • Vibration Rattles



"Solid as a rod but Flexible as a wire rope" is a good description of TRU-LAY PUSH-PULL REMOTE CONTROLS. This flexibility makes it possible to snake around obstructions as shown in the picture at the left . . . permits the ideal arrangement of all control elements . . . greatly simplifies installation of controls by reducing the number of working parts . . . damps out noise and vibration. Versatile, Accurate, Adaptable, Rugged . . . they are the ideal remote controls for Construction Equipment.

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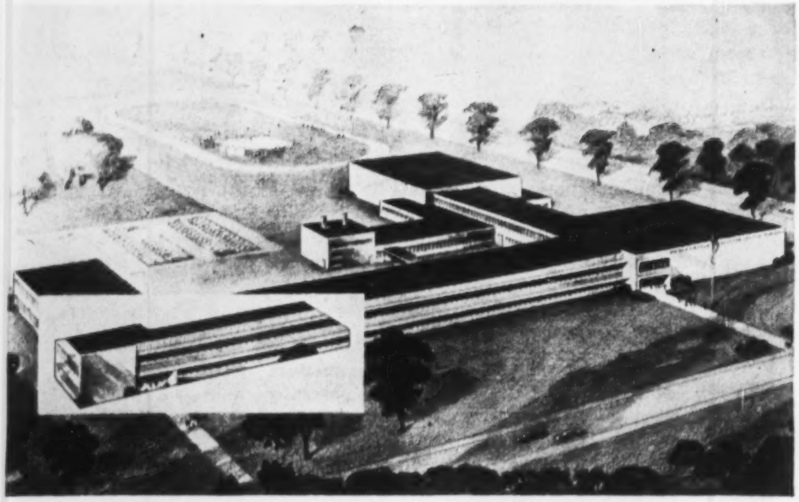
Here's the job where Pittsburgh Steeltex made the substantial saving in the number of days required to prepare for and pour a 2½-inch concrete roof slab, measuring 64 x 220 feet. The project is the Ecorse Elementary School in Trenton, Mich. *Contractor:* The Charlson Company. *Architect:* Giffels & Vallet, Inc., L. Rosetti, Associated Engineers and Architects.

"Steeltex saved 6½ days on 14,000 sq. ft. roof deck"



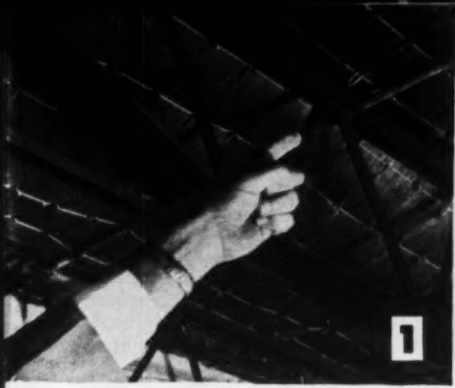
Architect's aerial perspective of the whole school unit, including the elementary school (shown at left) which was constructed as the first segment of the entire job.

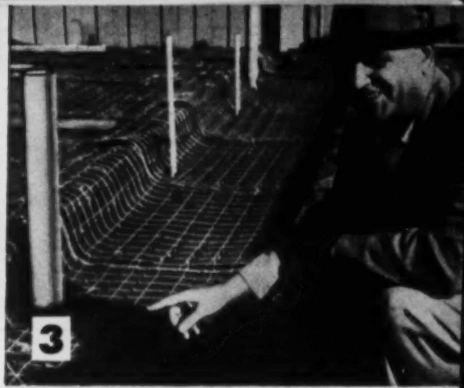
A Michigan contractor saved 6½ days on a school construction job by using Pittsburgh Steel Products' Steeltex Floor Lath.

The Charlson Company of Wyandotte, Mich., took only 28 hours to cover the roof area with Steeltex before pouring a 2½-inch concrete slab. The job was complicated by numerous columns and other irregular shaped objects on the roof.

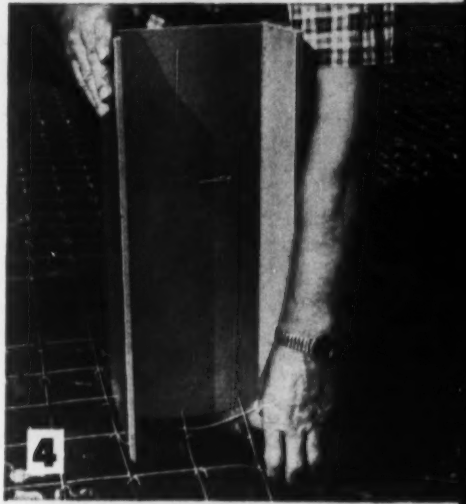
William Johnson, construction superintendent, said use of Pittsburgh Steeltex—the wire mesh reinforcing that carries its form right on its back—permitted his men to start laying the material on a Wednesday morning and complete the job Monday noon, just 3½ days later.

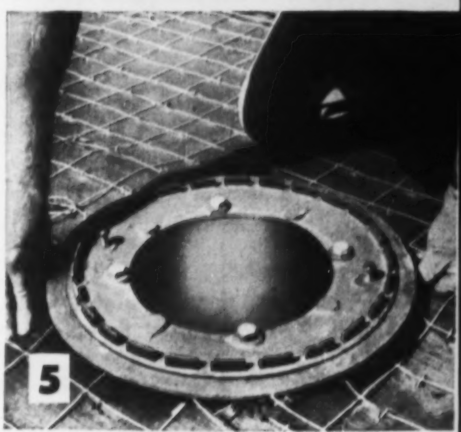
He estimated use of other forms would have taken a good two weeks before concrete could have been poured. The ease with which his men fitted Steeltex around pipes, columns and irregular shaped objects made the





Photographs above and at right show some of Steeltex's money saving advantages. 1. Rods welded to joists eliminate diagonal bridging. Steeltex and concrete give joists lateral stability. 2 and 3. Steeltex, cut and bent easily and quickly, made it possible for one man to cover this special depressed area in a few minutes. John Casey, architectural superintendent, points to neat, finished job. 4. It's easy to fit Steeltex snugly around columns. 5. Round or irregular shapes pose no problems because Steeltex fits snugly, keeps concrete from dripping through.





time savings possible.

To make the achievement even more remarkable, the Charlson men had never before used Pittsburgh Steeltex. But the workmen needed no other instructions than the printed directions which accompany every 125-foot roll.

Steeltex, sold by the Pittsburgh Steel Products Division of Pittsburgh Steel Co., was specified by Giffels & Vallet, Inc., L. Rosetti, Associated Engineers and Architects, of Detroit, Mich.

The specification pleased President K. H. Charlson of the Charlson Company, who said:

"Steeltex definitely was the best choice. It is a good product that is easier to cut and shape than other centering material. The paper backing reduces dripping and eliminates cleanup problems on the floor below.

"Steeltex is economical to buy, saves a lot of costly, time-consuming work and produces a high quality concrete slab with good reinforcing."

The Ecorse Elementary School job calls for the first segment now under construction to become eventually part of a much larger complete school unit, including a high school and a junior high.

Since the elementary school will have a second floor later on, its roof deck will become the floor of the planned second story.

That meant columns for the new roof had to be left protruding from the present roof. These columns offered no problem to Steeltex. It took one workman only a minute or two to cut the mesh and fit it around each column as he came to it.

A long depression in the roof deck (see photographs) had to be left for sanitary facilities on the proposed second floor. One man covered this long gap, measuring more than 20 feet long and two feet wide.

You, too, can reduce costs and pour concrete decks quicker while improving the quality of floors and roofs—when you use Steeltex.

Special advantages of Steeltex can work as well for you as for this Michigan architect and the contractor.

A trained Pittsburgh Steel Products engineer, with lots of construction know-how, is available close at hand. Call him at any of the district sales offices listed here. Do it today.

See Sweet's Catalog Section 2-B

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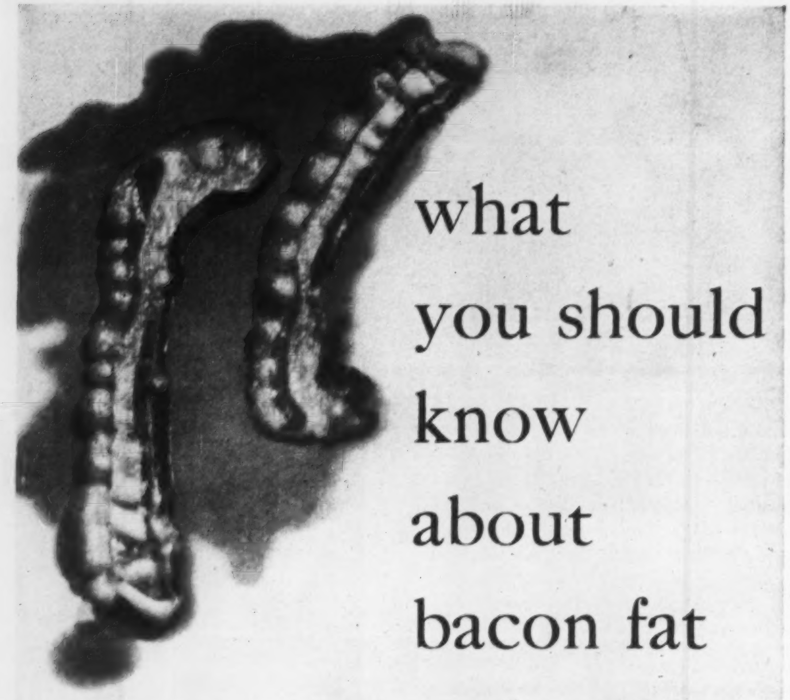

what you should know about bacon fat and Albanene®

Here's the buying information you should have to get the *best* value when you buy tracing paper.

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   Result: Valuable drawings on ordinary tracing papers eventually become yellow or brittle—lose their reproduction qualities. And, these days, replacements often cost twice as much as the originals.

2. **The K & E way**—Albanene tracing paper is made transparent with an inert synthetic resin which is chemically stable . . . can't leak out—ever!

   Result: Albanene stays transparent . . . stays strong . . . protects every nickel you invest in time and talent working on it.

   Important: During manufacture, constant testing *guarantees* uniformity as well as pencil taking and erasing qualities. The very qualities that have made Albanene—America's best selling tracing paper.

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89 YEARS OF LEADERSHIP

In equipment and materials for drafting, surveying, reproduction and optical tooling . . . in slide rules and measuring tapes.

KEUFFEL & ESSER CO.

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Obituaries

George D. Lehmann, 65, for 24 years a member of the Toledo-Lucas County, Ohio, Plan Commission, died late in January.

Parke O. Decker, 58, district engineer for the Pennsylvania General State Authority, District No. 2, with headquarters at Harrisburg, died Jan. 24. During his long construction career, Decker had been an engineer for Starrett Brothers & Ekin, of New York City, from 1926 to 1932, by the E. I. du Pont de Nemours, Inc. of Wilmington, and had been a resident engineer for the Pennsylvania Turnpike Commission before joining the state authority.

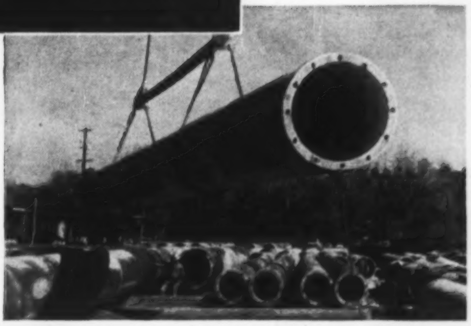
Lawrence S. Tuttle, 52, a staff member of the Automotive Safety Foundation of Washington, D. C., and formerly assistant to the Commissioner of Public Roads, died Jan. 29 at Nashville. Tuttle served as an engineer with BPR for 25 years, until joining the federation in 1953. Born in the Philippine Islands, he graduated from Stanford University in 1928 with a degree in civil engineering.

Charles G. Richardson, retired vice president of Builders-Providence, Inc., died on Feb. 3. He had been ill for several months. Long-known throughout the water and sewage works industry, he retired in 1955 after 52 years of service to his company and to the industry. A graduate in 1900 of Brown University as a mechanical engineer, he spent three years in drafting and design work before joining Builders Iron Foundry in 1903. In 1944 he became vice president of Builders-Providence, the meter and instrument division of B-I-F Industries. He held several patents in the field of metering and controlling and was active in many technical societies. For a number of years he served as a member of the board of governors of the Water & Sewage Works Manufacturers Association.

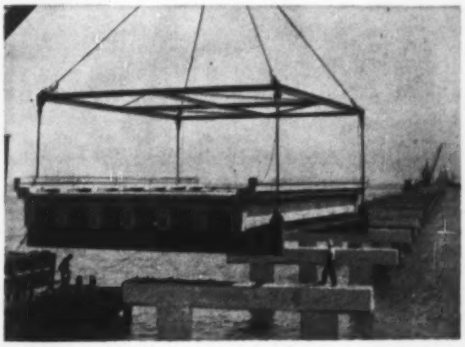
Carl A. Houck, 73, former vice president of Buffalo Structural Steel Corp., Buffalo, N. Y., died Jan. 22. Soon after graduation from Massachusetts Institute of Technology in 1905 he joined the Buffalo steel corporation as engineer. Later he worked as an engineer on New York State Thruway bridges.

Arthur L. Tuttle, 86, former city engineer of Danville, Ky., died Jan. 23. He also had served as a mining instructor at Washington University in St. Louis.

Prestressed, Precast Concrete Speeds Building of Lake Pontchartrain Bridge



Above, a few of the 4,886 prestressed concrete piles used on the Lake Pontchartrain Causeway. Below, one of the 2,246 prestressed, precast concrete bridge spans.



The world's longest overwater highway bridge, the 24-mile Lake Pontchartrain Causeway was to be constructed in 23 months. This was a difficult contract by any method of building. By employing precast concrete units the job was completed four months ahead of schedule.

The early completion of this tremendous job was made possible by employing mass-production, assembly-line techniques and by designing the structure so that only three basic types of precast concrete units were required. These were (1) hollow cylindrical prestressed piles, 54-in. dia. and averaging 88 ft. in length, (2) precast reinforced concrete pile caps and (3) prestressed, precast concrete deck spans each 56-ft. long and 33-ft. wide.

Whether building long bridges or a number of short bridges, the use of precast concrete members offers unusual speed and economy. These factors have extra significance in view of the thousands of bridges and similar structures that will be required on the National System of Interstate and Defense Highways.

For additional information regarding the use of precast and prestressed concrete write for free data today. Distributed only in the U.S. and in Canada.

PORTLAND CEMENT ASSOCIATION
Dept. A2d-17, 33 W. Grand Ave., Chicago 10, Ill.
A national organization to improve and extend the uses of portland cement and concrete . . . through scientific research and engineering field work

Rx for
Wet Job
"Headaches"

Consult with Griffin's engineers.

Ground water analysis and pre bid estimate —no obligation.

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WELLPOINT CORP.
881 East 141st Street, New York 54, N. Y.
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Peelle
Pass
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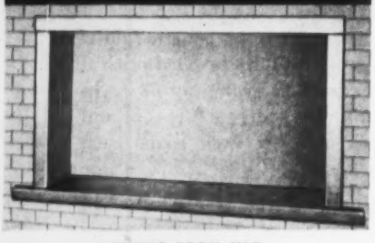


DINING ROOM SIDE

This unit consists of an integral hollow metal door and frame designed for quick, economical installation in schools, cafeterias, restaurants, ticket and baggage rooms, cloak rooms, gymnasium issue rooms, etc. Also with glass frame for hospital observation rooms and laboratories. Special extended sills furnished when specified.

See Sweet's Arch. File 33c/Pe, page 9.

THE PEELLE COMPANY
47 Stewart Ave., Brooklyn 37, N. Y.
ALSO RICHMOND FIREPROOF DOOR CO
Richmond, Ind.

Unit Prices

Flood Control Drains in Los Angeles, Calif.

This reinforced concrete box conduit with tunnel section will carry the Slauson Avenue relief drain through a heavily populated residential and business area of Los Angeles.

The $8,552,413 contract to Peter Kiewit Sons' Co. and Fred J. Early Jr. Co. is with the Los Angeles Flood Control District, H. E. Hedger, chief engineer.

The contract tops the engineer's estimate by 8.5% but is 13% and 14% below the two other bids.

The relief drain is 19,700 ft long. Box conduits vary from a single box, 17 x 17 ft, to a four-barrel box of 9 x 10 ft.

Excavation depths vary from 20 ft to 54 ft and average 35 ft for the entire project. Approximately 70% of the work is in peat soil.

The arch section tunnel is 17 ft 8 in. high.

In addition to these, the contract calls for transition and junction structures, manholes, catch basins, sanitary sewers and ornamental lighting.

Specifications require class A concrete with an ultimate compressive strength of 3,000 lb psi.

Daily wage rates scheduled include $17.60 for common labor, $18.80 to $25.92 for operating engineers, $24.00 for reinforcing iron workers and $27.60 for electricians.

The three bidders on this project include:

1C	Peter Kiewit Sons' Co., Fred J. Early Jr. Co., Inc., San Francisco, Calif	$8,552,413
2	S. A. Healey Co., Chicago, Ill	9,864,631
3	MacDonald & Kruse, Sun Valley, Calif., and Macco Corp., Paramount, Calif	9,922 089
EE	Los Angeles County, Flood Control District	7,878,367

Bids: 12-14-56 Items	Unit	Quantity	Unit 1C	Prices 2
Exc for box	cy	519,089	$6.70	$8.00
below subgrade	cy	20,129	5.00	3.75
for tunnel	cy	1,820	39.00	22.50
Backfill, conc, below subgr	cy	20,129	19.00	15.75
Conc, reinf, box conduit	cy	73,786	26.30	34.00
tunnel	cy	590	66.00	40.00
Steel	lb	8,753,075	0.13	0.12
Cement, type II	bbl	44,685	5.00	3.75
type V	bbl	66,879	5.50	4.30
Manhole, No. 4	ea	38	500.00	500.00
No. 1	ea	2	1,725	1,800
Transition structure, No. 1	ea	4	5,167	11,700
No. 2	ea	6	22,000	43,800
No. 4	ea	1	11,500	33,800
No. 5	ea	5	19,600	30,300
Junction structure, No. 1	ea	9	1,033	11,500
Catch basin, No. 1	ea	56	400.00	400.00
No. 2	ea	33	544.00	550.00
No. 3, W 14'	ea	12	924.00	900.00
W 21'	ea	5	1,232	1,300
W 35'	ea	4	2,217	2,400
W 56'	ea	2	3,942	4,000
Access struct, single box	ea	1	4,718	6,000
double box	ea	3	4,787	8,700
Ballona Creek, reconstruct	ls	job	6,185	30,000
sewer suppt	ls	job	41,351	49,000
Trans struct, sta 1+77−2+40	ls	job	44,907	45,000
Support water line, 57"	ls	job	15,225	21,000
sewer, La Brea Av	ls	job	10,266	31,000
Rodeo Rd	ls	job	11,313	43,000
Junc struct, sta 0+17.77−0+33	ls	job	4,316	26,000

Bids: 12-14-56 Items:	Unit	Quantity	Unit Prices 1	2
RCP, 1500 D, 96"	lf	52	113.00	100.00
1400 D, 57"	lf	70	53.00	65.00
54"	lf	64	50.00	60.00
1750 D, 36"	lf	72	33.00	30.00
1500 D, 33"	lf	95	29.00	28.00
30"	lf	139	23.00	25.00
1750 D, 24"	lf	8	35.00	16.00
21"	lf	35	23.00	14.00
2000 D, 18"	lf	131	22.00	20.00
1750 D, 18"	lf	3,173	18.00	15.00
CIP, sewer crossings	ls	job	18,300	4,500
VCP, sewer, 10", extr str	lf	635	9.00	8.00
8", extr str	lf	1,579	10.00	7.00
std str	lf	3,171	10.00	7.50
Manhole, "B", sewer	ea	14	400.00	350.00
"Q", sew terml.	ea	4	350.00	350.00
Junct chamber "F", sewer	ea	3	400.00	250.00
Manhole, trap, sewer	ea	3	500.00	600.00
VCP, chimney sew, 6", SS	vf	24	11.00	15.00
Sewer, lat, house, 6"	lf	1,471	10.00	6.00
Pipe suppt across main line	ea	51	200.00	250.00
across RCP	ea	16	75.00	75.00
Conc blanket over sewer	lf	130	6.00	6.00
Joint waterstop	lf	22,590	0.80	0.80
Gutter, conc	sf	2,695	1.25	1.25
Bushes & trees, replace	ea	114	11.00	120.00
Access rd, temp & detour	ls	job	3,875	8,000
Light conduit	lf	5,546	2.60	2.50
cable	lf	25,020	0.35	0.35
Electroliers	ea	21	165.00	145.00
Pull box	ea	5	17.00	15.00
Catch basin, special	ea	10	1,100	1,300
Resurface Coliseum St	ls	job	36,000	35,000

Time to complete: 900 calendar days
Liquidated damages: $50.00 per day

Channel Dredging for Flood Control, La.

The site of this $1,176,363 clearing and dredging job on Whiskey Bay Pilot Channel Extension can be reached only by private boat. It extends from Mi. 61.2 to Mi. 63.7 in St. Martin and Iberville Parishes, La., approximately 21 miles below Krotz Springs.

Work is for the New Orleans District of the Corps of Engineers. Martin G. Chitty, Plaquemine, La., is field assistant.

McWilliams Dredging Co., a division of Williams-McWilliams Industries, New Orleans, took the contract at a price 10.5% above the engineer's estimate but 3.5% below the second low bid.

The 2.5-mile flood control channel is specified for a bottom width of 250 ft at elevation −38.0 to −50.0 MSL with side slopes of 1:2½ and 2-ft allowable overdepth.

The Corps of Engineers supplies the 28-in. hydraulic cutterhead and attendant plant.

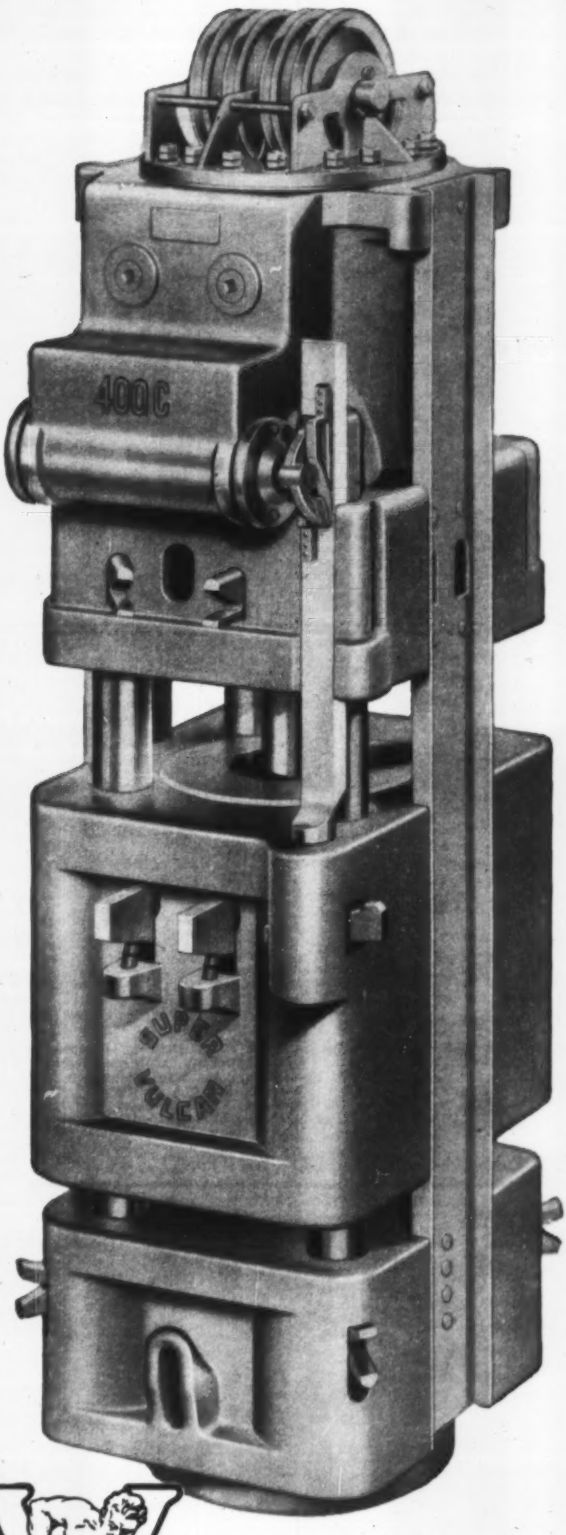
Minimum wage rates range from $1.00 to $2.50 per hour.

The four bidders include:

1C	McWilliams Dredging Co., New Orleans, La.	$1,176,363
2	Great Lakes Dredge & Dock Co., New Orleans	$1,218,502
4	Standard Dredging Corp., New York, N. Y.	$1,314,252
EE	New Orleans District, Corps of Engineers	$1,064,311

Bids: 9-13-56 Items	Unit	Quantity	Unit Prices 1 C	2
Clearing	ls	job	$24,000	$22,500
Dredging (incl max allowable overdepth of 232,000 cy	cy	7,257,000	0.159	0.1646

Time to complete: 420 calendar days
Liquidated damages: $50 per day



World's Largest Steam

PILE DRIVING HAMMER

Super VULCAN

Model 400-C

Striking Energy: **113,488 foot pounds per blow.**

Will Drive Piling in Excess of **80 Tons** Dead Weight and up to **12 Feet** in Diameter.

Drives Bearing Piles to Support **1,000 Tons.**

Gross Weight: **83,000 pounds.**
Ram Weight: **40,000 pounds.**

Hammer is approximately 60 Inches Square and 17 Feet in Height.

VULCAN IRON WORKS INC. 327 North Bell Avenue, Chicago, U.S.A.

Materials and Labor Prices

Monthly Market Quotations by ENR Field Reporters

See following ENR issues for OTHER PRICES

- Cement, Aggregate, Ready-mixed Concrete, Asphalt: Last, Feb 7; Next, Mar 7
- Iron and Steel Products, Pipe: Last, Feb 14; Next, Mar 14
- Wood Products, Glass, Explosives: Last, Feb 21; Next, Mar 21
- Clay Products, Lime, Plaster, Paint, Roofing: Last, Feb 28; Next, Mar 28

STRUCTURAL CLAY BUILDING TILE, BRICK AND LIME—DELIVERED

	STRUCTURAL CLAY TILE PARTITION — SCORED Per M. lots of 2,000 pieces or over,			STRUCTURAL CLAY TILE — LOAD BEARING — SCORED Per M. lots of 2,000 pieces or over,			BRICK Per M. in quantity		LIME Per ton, in paper, Carload lot,		
	3x12x12 in.	4x12x12 in.	8x12x12 in.	8x12x12 in.	10x12x12 in.	12x12x12 in.	Common backing	Straight hard	Hydrated finishing	Common hydrated	Pulverized or lump
Atlanta	$149.90p	$149.90p	$299.80p	$334.55p	......	......	$30.50p	$32.70p	$23.50	$24.50	$.....
Baltimore	203.00	217.00	406.00	485.50	596.00	681.00	36.00k	41.00k	33.00	22.00	.....
Birmingham	135.00p	152.00p	......	303.00p	376.00p	465.00p	27.00ff	38.00gg	35.02	22.30	26.33
Boston	217.00†	231.60†	434.10†	520.50†	......	......	41.50p	46.50p	35.70†	30.00†	.....
Chicago	135.00	145.00	280.00	......	......	......	30.00	32.00	38.00	35.20o	.....
Cincinnati	205.00j	225.00j	296.00jdd	213.00j	288.00j	314.00j	45.00j	46.00j	28.50j	24.25i	28.50j
Cleveland	202.50	215.00	......	......	......	......	43.00	47.00	31.00	26.00	.....
Dallas	......	152.00	......	......	......	......	25.75	45.00	37.86	25.08	.....
Denver	......	......	......	......	......	......	36.00	47.50	34.80bb	28.00bb	34.00bb
Detroit	213.00	226.00	425.00	......	620.00	710.00	44.00cc	44.50cc	36.00	32.00	.....
Kansas City	127.50	147.50	270.00	270.00	340.00	400.00	33.00	33.00	40.00	38.00	34.00
Los Angeles	r	r	r	r	r	r	30.50§	.....	34.00	34.00	35.00
Minneapolis	188.00p	210.00p	429.00p	210.00pw	......	......	43.00*p	52.50ii	45.50bbe	35.50bbe	47.50bbde
Montreal	170.00aq	178.00au	325.00au	270.00	400.00	......	42.00	49.00	39.00	22.00	13.25u
New Orleans	186.00	186.00	380.00	380.00	......	......	40.00	55.00	44.00	32.00	32.00
New York	158.10h	168.60h	231.70ch	233.90hn	......	......	44.00	.....	37.00	35.00	.....
Philadelphia	156.30	166.80	312.70	375.20	......	......	30/34	34/40	27.60	25.60	3.17
Pittsburgh	154.00	162.00	292.00	340.00	420.00	495.00	.....	.....	.....	.....	.....
St. Louis	179.00cc	203.00cc	358.00cc	500.00cc	......	......	43.00sl	41.50s	0.95saa	.80saa	1.35ss
San Francisco	156.85*	177.10*	235.30dd*	......	......	......	42.50*	42.50*	27.75	27.75	30.50
Seattle	225.00cc	250.00cc	450.00cc	250.00ccw	......	......	43.00s	57.00s	48.00shh	38.25hh	3.90mhh
Toronto	138.70	148.70	273.75	222.00f	......	......	25.00	63.00	36.00	33.50	31.00

*† F.o.b. yard Roxbury. *a Smooth. *b Per 50 lb. bags. *c 6 x 12 x 12 in.-3 cell. *d Pulverized hot. *e 5%, 10th following month. *f 8 x 8 x 12. *g 5½ x 8 x 12. *h F.o.b. trucks, job site N.Y.C. *j Truck load or over. *k $1.00 discount. *l Red face. *m Per bbl., 180 lb. *n 7¾ x 7¾ x 12. Speed tile. *o mason's double hydrated pressure. *p Truck lots. *q Provincial and Municipal tax extra. *r Not used because of earthquake danger. *s 2% discount for cash. *t 5½ x 8 x 11¼. *u Tax exempt. *v Sand lime. *w 5 x 8 x 12. *y Stacked. *z Pebble lime price per 80 lb. sack. *aa Price per sack. Lime not sold per ton. *bb LCL. *cc Truck delivery. *dd 6 x 12 x 12. *ee Pebble lime. *ff 80% common. *gg Rough. $40.00 Smooth. *hh lcl. *ii Chi common. § F.o.b. yard. ** F.o.b. plant Stockton

PAINT, ROOFING—F.O.B. CARLOAD LOTS

	RED LEAD Per 100 lb. in 600-lb. (Approx.) bbl. Dry a	WHITE LEAD Per 100 lb. in 100 lb. cases in oil w	READY-MIXED PAINT Per gal., drums			ROOFING SUPPLIES; Carload lots f.o.b. factory				
			Graphite b	Aluminum c	Ferric Oxide d	Rolls, slate surfaced, 85-90 lb. per sq.	Asphalt felt, per 100 lb.	Tar felt, per 100 lb.	Asphalt coating per gal.	Tar pitch 380 lb. bbl. per ton
Atlanta	$19.25	$28.275	$3.50	$3.86	$3.31	$3.37	$2.19	$2.61	$0.67	$57.75
Baltimore	19.00	27.90	2.75	4.25	3.35	2.78	4.25	4.25	.48	50.18
Birmingham	19.25	28.275	3.90	3.40	....	3.37	2.80ii	2.80ii	.87ff	42.65ee
Boston	19.00	27.90	....	....	....	3.30gq	2.83og	2.83og	.45g	56.00g
Chicago	19.00	27.90	....	....	....	3.26‡u	2.86‡o	2.89‡o	45.50‡bbv	55.70‡
Cincinnati	19.00	27.90	....	....	....	2.75	2.36	2.39	.594y	52.36
Cleveland	19.00	27.90	2.3918pgg	2.5061gg	2.7893gg	3.10q	2.50o	2.50o	.454y	47.00hh
Dallas	19.25	28.65	....	3.13B	....	3.00q	5.00e	3.00e	.464	65.00hh
Denver	19.50	28.40	3.29	5.15	3.04	2.84	2.30e	2.30e	.48ff	45.00
Detroit	19.00	27.90	3.35	3.25	2.50	3.10	2.50	2.409	58	47.30
Kansas City	19.00	28.65	3.82	3.28	2.90	3.90ii	3.73e	3.73e	.62y	89.56
Los Angeles	19.00	28.15	3.30n	4.50n	4.20n	3.20n	2.15en	l	.70ny	l
Minneapolis	19.00	29.88/28.02	....	....	....	2.81dd	2.47hidd	2.47hidd	.523idd	48.00v
Montreal	......	21.95	5.02Dfft	5.94Efft	4.65Ffft	5.25f	4.65f	4.65f	1.60	....
New Orleans	......	......	....	....	....	2.74	2.18	2.43	0.689	....
New York	19.00	27.90	....	....	....	2.96	2.33o	2.33o	.421s	48.00*
Philadelphia	19.00	27.90	3.60	3.40/3.65	3.50/4.60	2.75/3.00	2.94	2.94	45	48.00
Pittsburgh	19.00	27.90	3.10	3.36	3.68	3.72	2.85o	2.85o	42	58.75
St. Louis	19.00	27.90	....	....	....	3.50s	3.75h	3.75h	.46y	54.50
San Francisco	19.00	28.15	3.05	4.25	3.50	2.69	2.09**	3.10ab	.47	54.00
Seattle	19.00	28.40	3.47mcc	4.19mcc	....	3.58mqcc	3.10hmcc		50mcc	47.20**
Toronto	......	......	....	..	....	4.45	4.10e	4.65o	1.70j	88.00A

*‡ Delivered. * Note: Red lead in oil 50¢ higher than white lead in oil. *a Red lead prices change frequently due to pig lead price changes. *b U. S. War Dept. Spec. 3-49A. *c ASTM Spec. D266-31. *d 80% minimum ferric oxide. *e 15 lb. *f Per 432 sq. ft. *g F.o.b. yard, Roxbury. *h Per roll, 55 lb. *i Net carload lot prices; Minneapolis and vicinity. *j 45 gal containers. *k Per cwt. *l Not used. *m 1% discount for cash. *n F.o.b. city. *o Per 60-lb. roll. *p 6-drum, 50 gal. ea. *q Per 90-lb. roll. *r F.o.b. factory, Chicago. *s Truckload. *t Federal tax included, add 5% mun. & prov. tax. *u Per 90-lb. square. *v Per ton. *x Mineral surfaced. *y 55-gallon container. *z Drums. *aa 15 lb., 324 sq ft roll. *bb Roofers coating and cement; Price per ton. *cc LCL, truck delivery. *dd 2% cash discount. *ee Asphalt pitch in 100 lb. package. *ff 5-gal. drums. *gg F.o.b. factory. *hh Incl. freight. *ii Per roll. *A 400 lb barrels, *B ASTM Spec D-962-49. *D Std. Black. *E Ready-mixed. *F Over 80% ferric oxide. ** Aver. wt. approx. 425 to 550 lbs. drums.

PLASTER, VERMICULITE AND METAL BUILDING SHEETS & TUBING

	PLASTER†		VERMICULITE†			PERLITE		ALUMINUM SHEETh		STAINLESS STEEL SHEET*-TYPE 302g		COPPER WATER TUBING-TYPE L 2000 ft lots per fta	
	Neat per ton	Gauging per ton	Home Insulation pellets	Plaster aggregate	Concrete Aggregate Untreated	Plaster Aggregate	Concrete Aggregate Untreated	Flatj .102" th 36"x96" & 48"x144" per lbt	Corr roof .032" th 35"x12" per shu	20 ga 48"x96-120" per cwthh	28 ga 36"x120" per cwtmm	⅜"b	½"c
			per bag of 4 cu ft										
Atlanta	$31.00	$36.00	$1.55s	$1.65s	$1.80sl	$1.65	$1.65	$0.424n	$6.57v	$61.44n	$67.50n	$17.68f	$24.77f
Baltimore	22.85	33.25	0.95	1.15	1.15	1.15	1.65	0.391	0.427r	56.25	64.25	0.1951	0.2745
Birmingham	33.00	39.00	1.55	1.55	1.80l	1.55	1.55	0.475	10.02	62.26	70.76	0.1768	0.2477
Boston	22.00	30.00	1.40	1.40	1.45	1.45	1.50	0.505	28.56op	62.873dd	69.01ddff	0.1768	0.2477
Chicago	26.80	26.80	1.55	1.60	1.60l	1.50	1.50	0.474	9.805#p	62.65#ee	71.15#ee	0.1768	0.2477
Cincinnati	24.87*s	24.87*s	1.75	1.75	1.75	1.70	1.75	0.434	9.56	65.17	78.67ff	0.1768	0.2165
Cleveland	28.00	43.00	1.13	1.16	1.24l	1.45	1.45	0.44aa	8.66	64.93	73.43	17.68f	24.77f
Dallas	29.80	31.80	1.05	1.21	1.37l	1.21	1.32	0.379	0.439r	55.00	63.00	0.200	0.2810
Denver	25.00	25.00	1.45	1.35	1.50	1.40	1.50	0.444	9.80	60.19gg	70.69gg	0.2006	0.2810
Detroit	25.00	25.00	1.28	1.32	1.41	1.54	1.61	0.455	9.235	65.00#	73.50#	14.42foo	28.83f
Kansas City	30.00	35.00	1.25	1.35	1.50	1.40	1.60	0.451	10.95	67.14	75.81	20.06f	28.10f
Los Angeles	26.20	27.20	1.25ii	1.15b	1.25ii	....	....	0.484	9.96	62.45	72.95	0.1946	0.2729
Minneapolis	32.00	32.00	1.50	1.60	1.80	1.40	1.40	0.481	9.00	65.46	78.96ff	0.1720	0.2409
Montreal	28.80	33.20	1.10	1.30	1.30	1.15s	1.15s	0.437	9.25	66.50	......	0.228	0.287
New Orleans	32.00	45.00	1.25	1.25	1.35	1.25	1.25	0.422	8.303	62.04	70.54	0.1214	0.2768
New York	24.00	30.00	1.30	1.25	1.45	1.30	1.30	0.474#o	9.46#t	65.70	74.20	17.68f	24.77f
Philadelphia	23/25	32.00	1.35	1.35	1.40	....	....	26.50#wx	7.50#	53.23#	60.98#	18.57f	26.09f
Pittsburgh	27.50	31.00	1.30	1.30	1.32	1.35	1.35	0.42	9.19	56.81	62.63	0.2045	0.2572
St. Louis	29.00	40.00	1.35	1.60jj	1.55	1.60	1.65	0.434	9.80	68.11	74.36	20.06fm	28.10fm
San Francisco	27.85	32.00	1.20	1.20	1.40	1.20	1.40	0.49	8.90cc	66.99	75.47	0.1768	0.2477
Seattle	38.00	41.00	1.45	1.25k	1.85l	1.50k	....	0.422	8.303	66.60	86.60	0.1715	0.2406
Toronto	28.50	45.50	1.20	1.30	1.45	....	....	0.4215	24.00	73.75	86.50	0.2929pp	0.3683pp

† trucklots, delivered * carload # delivered *a fob city *b ½" O.D. *c ⅝" O.D. *d 100'th *f per 100 ft *g 5 tons & up; cold roll, anneal & pickled; 2B finish *h 15M lb *j 1100 & 3003 alloy, mill finish *k per bag of 3 cu ft *l treated with air entraining agent *m 2-10M ft *n fob plant, fr allow *o 5M lb & up *p 100 sq ft quantity *r per lb *s 30# bag *t 36" x 96;-10.81 lb/sh; 48" x 144"; 21.7 lb/sh *u 19.31 lb/sh *v fob plant *w 48" x 144" *x 36" x 96" $13.25/sh *aa 16M lb & up *bb fob mill *cc 26" x 8-12' *dd add $0.75 cwt for boxing *ee 4 tons & up *ff 26 ga *gg add $2/cwt boxing; $0.75/cwt on skids *hh Theoretical wt for 48" x 96"; 50.4-lb, per sh. *ii 300-bag lots *jj per 100-lb bag *mm Theoretical wt: 19.7-lb per sh. *nn Deliv, warehouse means *oo ⅛" O.D. *pp Incl 10% sales tax

Materials and Labor Prices Monthly Market Quotations by ENR Field Reporters

See following ENR issues for OTHER PRICES

- Cement, Aggregate, Ready-mixed Concrete, Asphalt: Last, Feb 7; Next Mar 7
- Iron and Steel Products, Pipe: Last, Feb 14; Next Mar 14
- Wood Products, Glass, Explosives, Chemicals: Last, Feb 21; Next, Mar 21
- Clay Products, Lime, Plaster, Paint, Roofing: Last, Feb 28; Next, Mar 28

BUILDING BOARD & LATH AND INSULATION—DELIVERED TRUCKLOAD LOTS

	GYPSUM PLASTER BOARD tapered edge per Msq ft ½"	GYPSUM PLASTER BOARD ⅝"	GYPSUM BOARD LATH plain or perf per Msq ft ⅜" x 16" x 48"	GYPSUM SHEATHING tongue & groove per Msq ft ½" x 2' x 8'	FIBER BOARD SHEATHING asph impreg & coat per Msq ft ½" sq ed	FIBER BOARD SHEATHING 25/32" T&G	FIBER BOARD INSULATION sq edge, paint per Msq ft ½"	MINERAL WOOL INSULATION† loose, per 40-lb bag a	MINERAL WOOL INSULATION† 3" batts per M sf	GLASS FIBER INSULATION† loose, per 40-lb bag a	GLASS FIBER INSULATION† 3" batts per M sf	ALUMINUM FOIL 80# Kraft 1 side foil per roll of 250 s. f.	ALUMINUM FOIL Expansible Blanket 2 layers foil per Msq.ft
Atlanta	$70.00	$60.00	$43.00	$70.00	$70.00	$127.00	$70.00	$1.00	$60.00	$2.00b	$75.00	.....	.....
Baltimore	51.25f	44.75f	32.55f	55.00f	65.00f	108.50f	69.00f	1.30	66.50	1.60	45.00	$4.00g	$33.50
Birmingham	73.00	60.00	47.77	75.00	81.00	135.50	80.00	1.40	70.00	1.60	75.00	3.13g	.....
Boston	60.00m	50.00m	36.00m	60.00m	65.00m	120.00m	79.00hn	1.45	75.00	....	80.00	6.00	55.50
Chicago	67.00	52.00	43.00	62.00	87.00	125.00	87.00	1.85	80.00	....	63/65bb	5.25e	....
Cincinnati	47.40w	42.35w	31.55w	50.56w	70.00w	125.00w	72.50w	1.25	60.00	1.25	73.50	3.12j	50.00w
Cleveland	60.50	55.00	40.00	65.00	74.00	130.00	80.00	1.35/1.50	75.00	1.60**	57.50**	17.50*	50/55
Dallas	58.00	55.00	42.50	65.00	73.50	122.50	70.00	1.90	65.00	1.35	65.83	4.25	.....
Denver	62.00	54.50	41.00	62.00	75.90	126.30	74.90	....	71.00l	1.20s	55.00	11.00r	31.00
Detroit	57.50	49.75	36.00	60.00	59.50	99.00	59.00	....	....	1.95b	83.00	....	.....
Kansas City	65.00	55.00	40.00	65.00	72.00	120.00	75.00	1.40	80.00	1.40	80.00	11.24di	19.44
Los Angeles	64.00	59.00	0.325x	66.50	71.87	121.25	80.00	....	83.00	1.35a	64.00	4.20y	.....
Minneapolis	80.00	70.00	0.40x	80.00	70.00	140.00	78.00	1.60	80.00	1.80	80.00	6.00	.....
Montreal	56.00	47.40	36/39	53.00	63.25	...	63.00	1.30	56.00	1.30	56.00	16.20e	56.00
New Orleans	57.00	48.00	45.00	60.00	75.00	125.00	72.50	1.75	68.00**	....	.....	.....	.
New York	53.00	45.50	35.00	54.00	74.50	118.00	73.50	1.55	65.00	1.90p	67.00	5.20	48.80cc
Philadelphia	50.00	48.00	34.00	48.50	67.50	105.00	49.20	....	63/70	....	70/75	5.50/6	34.50/44.50
Pittsburgh	65.00	55.00	40.00	68.00	65.00	105.00	60.00	1.90	72.00	1.90	72.00	4.10	.....
St. Louis	65.00	55.00	39.00	70.00	75.00	120.00	80.00	1.25	80.00	1.65	62.00	5.85i	...
San Francisco	54.00c	46.00	0.35x	57.00	63.00	104.00	62.00	1.60	66.50	1.60	66.50	4.95	55.00
Seattle	66.00	57.50	46.50	65.00	74.50	125.00	73.50	1.60y	74.00	1.60aaz	50.00aa	4.25g	46.50
Toronto	61.00	50.00	38.00	64.50	75.00	....	...	1.40	60.00	....	60.00	16.00e	45.45

*a for hand packing *b per 30# bag *d 40# kraft paper *e 20# sq ft bag, 4" thick *f full trailer loads *g 80# kraft paper backing *h LCL *i 40 lb roll *j 80 lb roll *l flame-proof $75.00 *m 10 ton quantities *n distributor's siding *o per Msf roll *p per sf *r per cwt *s per 35# bag *t per M sq ft *w fob city *x per sq. yd. *y 26# bag *z 32# bag *aa fob warehouse *bb 2" *cc in 250 sf rolls, of 16", 20", or 24" width.

HOURLY WAGE RATES—Base rate + fringe benefits

	Bricklayers	Carpenters	Struct. Iron Workers	Hoisting Engineers	Plasterers	Electrical Workers	Steamfitters	Common Labor Building	Common Labor Heavy Const
Atlanta	$3.35	$2.80	$3.05	$2.80	$3.00	$3.20	$3.20+25¢[cc]	$1.45	$1.45
Baltimore	3.45+10¢[d]	2.95+7½¢[i]	3.50+7½¢[i]	2.70/2.95+10[Qd]	3.25+7½¢[i]	3.30	3.20+7½¢[i]	1.80+7½¢[i]	1.80+7½¢[i]
Birmingham	3.50	2.70	3.00+7½¢[h]	2.52	2.92	3.175	3.17+10¢[v]	1.50	1.60
Boston	3.50+10¢[d]	3.05+10¢[d]	3.55+7½¢[h]	3.55	3.50+20¢[I]	3.30+12¢[R]	3.20+10¢[d]	2.30+7¢[Y]	2.30+7¢[Y]
Chicago	3.62½+7½¢[h]	3.35+10¢[e]	3.55+7½¢[h]	3.25+5¢[m]	3.54+23¢[p]	3.48+21¢[f]	3.37+22¢[aa]	2.57½+7½¢[h]	2.57½+7½¢[h]
Cincinnati	3.60	3.30	3.35+7½¢[h]	3.075/3.325	3.375	3.50+3¢[N]	3.50+9½¢[Z]	2.35	2.25
Cleveland	3.55+10[e]	3.575	3.50+7½¢[h]	3.575	3.575	3.60	3.375+10¢[d]	2.825	2.75
Dallas	3.70	2.95	3.12½+7½[h]	3.075	3.50+7½¢[h]	3.12½+7½¢[h]	3.10+7½¢[h]	1.55	1.55
Denver	3.75	3.075	3.00+7½¢[i]	2.93	3.30+7½¢[i]	3.00	3.17+15¢[D]	2.00	2.00
Detroit	3.53+20¢[ee]	3.20+29¢[e]	3.47½+20¢[P]	3.20+20¢[ess]	3.51+24¢[el]	3.50+30½¢[H]	3.45+14¢[B]	2.45+20¢[ess]	2.55+10¢[e]
Kansas City	3.75	2.95	3.10	3.065	3.375	3.325[O]	3.40+7½¢[h]	2.155	2.18
Los Angeles	3.80	3.00+10¢[d]	3.40+10¢[e]	2.95+10¢[d]	3.75+12½¢[S]	3.60	3.5 +10¢[d]	2.30+7½¢[h]	2.30+7½¢[h]
Minneapolis	3.425	3.00	3.17	2.95	3.10+23[Ge]	3.12[n]	3.065+20[de]	2.25	2.25
New Orleans	3.25+5¢[n]	2.725	3.10+7½¢[h]	2.85+7½¢[h]	2.87½+5¢[m]	3.025+7½¢[h]	3.15+15¢[e]	1.55	1.55
New York	4.25+37¢[br]	3.75+30¢[be]	4.15+ 24½¢[v]	4.00+32¢	4.00+50¢[A]	3.65+40¢[eF]	3.95+35½¢[bL]	2.65+21¢[V]	2.65+21¢[V]
Philadelphia	3.75+17¢[i]	3.385	3.80+18¢[IM]	3.15½/3.90½+10¢[e]	3.65+15¢[C]	3.77+15¢[ue]	3.75+11½¢[e]	2.10	2.40
Pittsburgh	3.75+17½¢[he]	3.40+7½¢[h]	3.55+10¢[ee]	3.35+7½¢[h]	3.45+17½¢[ho]	4.00+7½[ee]	3.425+7½¢[h]	2.25+12½¢[ff]	1.98+10¢[d]
St. Louis	3.75+28¾¢[c]	3.25+7½¢[h]	3.25+7½¢[h]	3.325	3.55+7½¢[h]	3.60+25¢[r]	3.55+21¢[K]	2.30+7½¢[h]	2.30+7½¢[h]
San Francisco	3.75+36½¢[dd]	3.25½+20¢[e]	3.40+10¢[e]	2.98+10¢[e]	3.61+20¢[ee]	3.37½+23¢[U]	3.45+46¢[K]	2.325+10¢[e]	2.325+10¢[e]
Seattle	3.55+10¢[d]	2.94+10¢[d]	3.25+10¢[d]	3.13+20¢[d]	3.40+10¢[d]	3.25+19½¢[X]	3.40+21¢[T]	2.51+10¢[d]	2.51+10¢[d]
Montreal	2.10+14¢†	1.90+14¢†	2.00+14¢†	1.80+14¢†	2.12+18¢†	2.10+18¢†	2.12+18¢†	1.30+10¢†	1.30+10¢†
Toronto	2.66+10¢**	2.45+10¢**	2.40+10¢**	2.55+10¢**	2.45+18¢**	2.65+10¢**	2.44+10¢**	1.50+6¢**	1.50+6¢**

ENR Skilled Average (Bricklayers, Carpenters, Iron workers): $3.458. **ENR Common Average** $2.214

* Cost of living bonus now included in basic wage. † 8% fringe benefits. ** 4% vacation fund. *a 8 hr. day. *b 7 hr. day. *c 5% vac. stamp fund plus 10¢ WF for bricklayers; 4% VF for electricians plus 8¢ WF, 1% PF. *d 10¢ H&WF. *e 10¢ VF. *f 6% WF. *g 11½¢ WF. *h $2.85 homes & housing plus 7½¢ WF. *i 17¢ WF. *j 10½¢ hr. WF. *k 7½¢ hr. WF. *l 4% VF. *m 5¢ hr. WF. *n Plus 11% fringe benefits on gross wage ea. yr. *o 10¢ PF. *p 3% WF, 3% PF. *q 10¢ ins; 6% vac. and holiday pay. *r 4% WF and 20¢ PF. *s 5% W&PF, 4% VF, 1% NC, 6 PH. *t 7½¢ H&WF. *u 1½% PF. *v 10¢ WF. *w Negotiating. *x 5¢ VP. *y 23¢ WF. *z 5¢ HP. *A 15¢ WF, 15¢ PF, 20¢ B.F. *B 7½¢ VP, 5¢ PF, 1½¢ EF. *C 15¢ WF. *D 10¢ H&WF, 5¢ organ. *E 6% WF, plus travel pay per day. *F Plus $4 per day Annuity contrib. *G 3¢ Prom. *H 7¢ WF, 6% VF. *I 15¢ H&WF, 5¢ for Advtg. *J 5% WF, 6 PH, 3% PF. *K 25¢ W & PF, 15¢ VF. *L 3% WF, 3% PF, 2% VF, 1% EF. *M 7½¢ PF. *N 1% WF. *O 10¢ W, 1% NECA. *P 10¢ hosp. ins.; 5¢ PF, 5¢ VF. *Q 1 drum, 2 drums 3.40/3.55+10¢. *R 10¢ H & WF, 2¢ admin. and 1¢ apprentice. *S 12½¢ H and WF. *T 21¢ H, W & VF. *U 7½¢ WF, 4% VF, 1% PF. *V 5% WF, 3% PF. *W 2% F. *X 12¢ VF, & 7½¢ H & WF. *Y 7¢ H & WF. *Z 9½¢ WF. *aa 7¢ WF, 15¢ PF. *bb 8¢ WF. *cc 25¢ WF. *dd 12½¢ WF, 14¢ PF, 5¢ Jt Bd 5¢ Prom. *ee 7½¢ FB. *ff 7½¢ ins. *gg 10¢ ins.

	Truck drivers 1½ T	Truck drivers −4 cy	Truck drivers +4 cy	Tractor Operators incl. bulldozers 34–49 hp	Tractor Operators incl. bulldozers 70–100 hp	Tractor Operators incl. bulldozers 100 & over	Tractor scraper 15–16 cy	Power cranes & shovels ½ cy	Power cranes & shovels ¾ cy	Motor grader oper	Air comp oper	Air tool oper
Atlanta	$1.75	$......	$......	$2.525	$2.525	$2.525	$2.525	$3.05	$3.05	$2.525	$2.30	$1.67
Baltimore	1.60+7½¢[a]	1.75+7½¢[a]	1.85+7½¢[a]	2.85/3.30[b]	2.85/3.30[b]	2.85/3.30[b]	2.85/3.30[b]	3.40/3.55+10¢[a]	3.40/3.55+10¢[ba]	2.85/3.30[b]	2.85/3.30[b]	2.25
Birmingham	1.60	1.79[ff]	2.05[gg]	2.66	2.66	2.66	2.80	2.80	2.80	2.76	2.385	1.75
Boston	2.195[c]	......	......	3.025[d]	3.025[d]	3.025[d]	3.025[d]	3.40	3.40	3.40	3.05	2.45+7¢[e]
Chicago	2.16+12¢[fw]	......	......	3.00+5¢[e]	3.15+5¢[e]	3.05+5¢[e]	2.85+5¢[e]	3.60+5¢[e]	3.60+5¢[e]	2.95+5¢[e]	2.95+5¢[e]	......
Cincinnati	2.20[oo]	2.30[oo]	2.40[ss]	3.075	3.075	3.075	3.075	3.325	3.325	3.325	3.325	3.325
Cleveland	2.50+10¢[m]	2.50+10¢[m]	2.50+10¢[m]	3.325	3.325	3.325	3.325	3.575	3.575	3.525[h]	3.20	3.20
Dallas	1.55	1.55	1.55	1.55/2.625[l]	1.55/2.625[l]	1.55/2.625[l]	1.55/2.625[l]	1.55/2.625[l]	1.55/2.625[l]	1.55/2.625[l]	1.55/2.00[l]	1.70/2.00[l]
Denver	2.15	2.15	2.25	2.15	2.76	2.76	2.76	2.93	2.93	2.76	2.76	2.35
Detroit	2.45	2.45	2.45	3.30+10¢[m]	3.30+10¢[m]	3.30+10¢[m]	3.30+10¢[m]	3.30+10¢[m]	3.30+10¢[m]	3.30+10¢[m]	3.025+10¢[m]	2.68+20¢[mm]
Kansas City	2.115[n]	2.115[o]	2.19[p]	2.30	2.85[q]	2.85[q]	2.85[r]	3.095	3.095	2.71	2.85[t]	2.24
Los Angeles	2.405+7½¢[a]	2.405+7½¢[a]	2.435+7½¢[a]	3.05+10¢[m]	3.05+10¢[m]	3.05+10¢[m]	3.30+10¢[m]	3.30+10¢[m]	3.30+10¢[m]	3.30+10¢[m]	2.54+10¢[m]	2.51+7½¢[a]
Minneapolis	2.25	2.25[y]	2.40[z]	2.78	3.00[y]	3.07[z]	3.00	3.22[y]	3.48[z]	2.78	2.67	2.38
New Orleans	1.70	1.95	1.95	2.20+7½¢[u]	2.85+7½¢[u]	2.85+7½¢[u]	2.85+7½¢[u]	2.85+7½¢[u]	2.85+7½¢[u]	2.85+7½¢[u]	2.20+7½¢[u]	1.65
New York	2.21[aa]	2.75+14¢[hh]	2.75+14¢[hh]	3.37½+27¢[m]	3.37½+27¢[m]	3.37½+27¢[m]	3.50+28¢[e]	4.25+34¢[h]	4.25+34¢[h]	3.50+28¢[h]	3.50+28¢[h]	3.00+15¢[ss]
Philadelphia	1.925/2.15+7½¢[a]			3.15½/3.90½+10¢[m]			3.15½/3.90½+10¢[m]	3.15½/3.90½+10¢[m]		3.15½/3.90½+10¢[m]	2.97½+10¢[m]	2.13½+10¢[m]
Pittsburgh	2.20+7½¢[a]	2.20+7½¢[a]	2.20+7½¢[a]	2.87½+7½¢[a]	3.20+7½¢[a]	3.27½+7½¢[a]	3.025+7½¢[a]	3.35+7½¢[a]	3.35+7½¢[a]	3.25+7½¢[a]	3.35+7½¢[a]	2.20+7½¢[a]
St. Louis	2.30+7½¢[mm]	——	——	3.325[kk]	3.325[kk]	3.325[kk]	3.325[kk]	3.325[kk]	3.325[kk]	3.325[kk]	2.775[kk]	2.775[kk]
San Francisco	2.32½+10¢[m]	2.32½+10¢[m]	2.465+10¢	3.095+10¢[m]	3.095+10¢[m]	3.095+10¢[m]	3.095+10¢[m]	3.425+10¢[m]	3.425+10¢[m]	3.255+10¢[m]	2.705+10¢[m]	2.425+10¢[m]
Seattle	2.63+7½¢[nn]	2.63+7½¢[mdd]	2.83+7½¢[mee]	3.10+20¢[tt]	3.10+20¢[tt]	3.10+20¢[tt]	3.10+20¢[tt]	3.46+20¢[tt]	3.46+20¢[tt]	3.19+20¢[tt]	2.85+20¢[tt]	2.71+10¢[m]
Montreal	1.30+10¢[ll]	1.30+10¢[ll]	1.30+10¢[ll]	1.73+14¢[ll]	1.73+14¢[ll]	1.73+14¢[ll]	1.73+14¢[ll]	1.99+16¢[ll]	1.99+16¢[ll]	1.73+14¢[ll]	1.80+15¢[ll]	1.60+15¢[ll]
Toronto	1.53+6¢[ii]	1.53+6¢[ii]	1.50+6¢[ii]	1.95+10¢[ii]	2.05+10¢[ii]	2.05+10¢[ii]	2.05+10¢[ii]	2.55+16¢[ii]	2.55+16¢[ii]	——	2.10+8¢[ii]	2.10+8¢[ii]

*a 5¢/hr. H & WF *b lower rates, straight time, other broken *c 2-axle; 10-wheel $2.25; Euclid $2.45 *d Intermediate *e bldg constr; highway $2.55+7¢WF *f less than 2-T *g 5% WF, 3% PF *h 4% WF, 4% PF *j plus $2 pd by employer for hosp. death benefits to family *k bldg constr; steel constr $3.475 *l higher rates are union, other taken from min wage scale approved by County Commissioners Court *m 10¢ H&WF *n flatbed *o under 10 cy *p over 10 cy *q over 50 hp *r blade grader *t single *u 7½¢ H & WF *x cat oper *y up to 3½ cy *z 3½ cy & over *aa plus W & PF *bb 3% WF, 2% PF, 11 PH *cc 4% WF & 4% PF *dd up to 5 cy *ee 5 cy & over *ff over 1½ T but not over 3 *gg up to 5 tons *hh excavating *ii 4% VP *kk 7½¢ WF included in base pay *ll 8% fringe benefits *mm 10¢ H & WF, 10¢ insurance *nn 8 cy or less; 8–16 cy $2.90; 16–25 cy $3.15 *oo Plus $2.25/wk WF *rr 12¢ WF *ss 5% WF. *tt 10¢ H&WF, 10¢ PF

MEXICO CITY PRICES

In Pesos, F.o.b. City		Jan. '57	Feb. '57
Common Wages—Building (8 hr. day) (Peons)	av. per hr.	1.38	1.38
Common Wages—Heavy Const. (8 hr. day) (Peons)	av. per hr.	1.38	1.38
Skilled Labor Wages			
Carpenters (8 hr. day) 1 el.	av. per hr.	2.48	2.48
Bricklayers (8 hr. day) 1 el.	av. per hr.	2.48	2.48
Struct. Iron Workers (8 hr. day)..... Remachadores.	av. per hr.	3.77	3.77

Struct. Steel, Shapes		Jan. '57	Feb. '57
3"–15" x 12 meters	per metric ton	2100.00#	2100.00#
# fob Monterrey			
Reinf. Steel, Corr. Rods			
⅜" x 11 meters	per ton	1965.00	1965.00
½" x 11 meters	per ton	1965.00	1965.00
⅝" x 11 meters	per ton	1965.00	1965.00
¾" x 11 meters	per ton	1965.00	1965.00
⅞" x 11 meters	per ton	1965.00	1955.00
1" x 11 meters	per ton	1965.00	1965.00

Gravel truck load at 3½ cu. meters		Jan. '57	Feb. '57
Blue Gravel	per tr. load	75.00	75.00
Rose Gravel	per tr. load	73.00	73.00
Cement, Std. Port. (Tolteca)	per ton	240.00	240.00
Lumber			
1" Pine	per M ft.	1200.00	1200.00
1½" Pine	per M ft.	1500.00	1500.00

NEW WHITE FOR CONSTRUCTION SERVICE

Newest White tandem-axle chassis for cement mixer or dump truck chassis is this White 9064. Front power take-off for efficient, economical mixer service. Real strength and durability with double channel, heat-treated steel frame . . . bolted construction.

RUGGED and STRONGER to do

NEW WHITE FOR CONTRACTORS' DUMP SERVICE

This White 9000 does a great job of cutting costs in dump truck service. Here it has 8 cu. yd. contractor dump body engineered for production-line service. Rugged units throughout keep it on the job regardless of how tough the operating conditions.

CHEMICAL EXPRESS

NEW WHITE FOR HEAVY TRANSPORT

New White 9000 tractor handles big-payload trailers with real skill. Excellent maneuverability. Gasoline or diesel powered. Engineered to your exact operating requirements.

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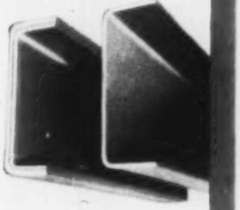
more work . . . last longer!

Ready for *more* work on construction projects around the world, these new White Trucks are engineered for big loads and busy schedules. Husky straight trucks, tandem-axle units and tractors are all built to construction industry specifications.

THESE WHITE FRAMES ARE DURABLE AND TOUGH!



Look underneath! One look at the White double channel, heat treated alloy steel frame tells a great story of durability and strength. Bolted construction for more work time—less down time.

Why not find out for yourself how White can haul bigger payloads . . . at lower cost . . . for more years. See your White Representative.

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THE TRUCK THAT KNOWS YOUR BUSINESS!

Construction Reports

Bids Asked—Low Bidders—Contracts Awarded—First Section—

Compiled by Business News Department—Engineering News-Record, 330 W. 42nd St., New York 36, N. Y., ELSIE EAVES, Manager
J. A. MAHONEY, M. WETZEL, M. E. SCIORRA, F. S. DEMBEK, Reports.
J. H. WEBBER, M. R. ROESSLER, E. R. HUBER, Statistics.

NEW ENGLAND

HEAVY CONSTRUCTION—BA

Me., York—BA 3/5—York Water Dist., York, 22,000 ft. 16 in. water mains, mechanical joint pipe. $150,000. Plans deposit $10, refundable. Camp, Dresser & McKee, 6 Beacon St., Boston, Mass., engrs. CD 12/19.

N. H., **Derry**—BA 3/6—Town, Water Dpt., 29 W. Broadway, water mains exten. $50,000. Plans deposit $10, refundable. Camp, Dresser & McKee, 6 Beacon St., Boston, Mass., engrs.

† **Mass., Falmouth** — ROCKET STORAGE — BA On Or About 3/14—U. S. Eng., 150 Causeway St., Boston, Zone 14, modifications to rocket storage bldg., Otis Air Force Base, ENG-19-016-57-172. $40,000-$60,000. CD 8/21.

▲ **Mass., Athol**—SCHOOL—BA 3/14—Athol-Royalston Regional School Dist., c/o Supt. Schools, Town Hall, regional high school. $1,888,200. Plans deposit $100, refundable. Alderman & MacNeish, 594 Riverdale St., West Springfield, archts.-engrs. CD 1/16.

▲† **Mass., Chicopee Falls**—COMMUNICATIONS BLDG.—BA 3/20—U. S. Eng., 150 Causeway St., Boston, off-base communications bldg., Westover Air Force Base, ENG-19-016-57-165. $1,000,000-$1,200,000. Plans deposit $20. CD 2/14.

† **Me., Bangor**—SEWERAGE TREATMENT PLANT—BA 3/26—Base Procurement Officer, Headquarters, 4060th Air Base Group, Dow Air Force Base, Bangor, sewerage treatment plant, etc. for family housing, Dow Air Force Base, IFB 170601-57-45. $100,000. Alonzo J. Harriman, Inc., 292 Court St., Auburn, archt. Whitman & Howard, 89 Broad St., Boston, Mass., engrs. CD 1/21.

BUILDINGS—BA

Mass., Belmont—SCHOOL—BA 3/7—Town, School Dpt., 19 Moore St., Winn Brook School addn., 97 Waterhouse Rd. $350,000. Korslund, LeNormand & Quann, Inc., 506 Washington St., Norwood, archts. CD 12/9/55.

† **Connecticut and Rhode Island**—SHOPS—BA 3/8—U. S. Eng., 150 Causeway St., Boston, Mass., field maintenance shops, $300,000-$400,000 each, and R. U. Shops, $25,000-$50,000 each, at Milford, Conn., Orange, Conn., and Smithfield and Coventry, R. I., ENG-19-016-57-154. Ganteaum & McMullen, 99 Chauncy St., Boston, Mass., engrs.-archts. CD 2/11.

Mass., Worcester—OFFICE—BA 3/13—Massachusetts Protective Assoc., Inc., 18 Chestnut St., Boston, office addn., alterations, Chestnut St. $350,000. Hoyle, Doran & Berry, 248 Boylston St., Boston, archts. Bids 12/4 rejected. CD 11/27.

Vt., Montpelier — DORMITORY — BA 3/19 — Vermont Junior College, College Ave., Dormitory "A" and Central Hall "B". $500,000. Plans deposit $20. Sturgis Assoc., Inc., 120 Boylston St., Boston, Mass., archt. CD 1/7, under LB.

BUILDINGS—SLC

▲ **Mass., Peabody**—DEPARTMENT STORE, etc.—Allied Stores Corp., Junction Andover St., Rtes. 128 and 114, soon lets contract department store and shopping center. $10,000,000. Extended date. John Graham & Co., 444 Fifth Ave., New York, N. Y., archts. Jordan-Marsh Co., 450 Washington St., Boston, Mass., lessee. CD 1/9.

HEAVY CONSTRUCTION—LB & CA

† **U. S. Eng.**, 150 Causeway St., Boston, Mass. rejected bids Nov. 23, furnish, fabricate, deliver structural steel, Dow Air Force Base, ENG-19-016-57-1168, BANGOR, ME. U. S. Eng., 150 Causeway St., Boston, Mass. LB **$412,800**. CD 11/30, under LB.

Pocahontas Marine Equipment Co., 10 State St., Boston, Mass. LB **$121,333, est.** $136,900. timber bulkhead finger piers and dredging Inner Harbor, Falmouth, MASSACHUSETTS. Commonwealth of Mass., Dpt. P. Wks., 100 Nashua St., Boston, Mass. Bids Feb. 12. CD 2/4.

▲ **CONNECTICUT**—State Hy. Dpt., 165 Capitol Ave., Hartford,

Conn.—**Frouge Constr. Co., Inc.**, 141 North Ave., Bridgeport, Conn., LB **$8,469,304** (2 bidders) combined bid, service stations, restaurants, lunchrooms, etc. Connecticut Turnpike, Proj. 306-15, 305-07 and 309-07 Darien, Fairfield and Milford; LB **$2,957,304** (4 bidders) service stations, restaurant lunchrooms, etc. Connecticut Turnpike at Darien only;

Conn.—**Wexler Constr. Co., Inc.**, 118 Neeham St., Newton Highlands, Mass., LB **$2,630,000** (6 bidders) service stations, restaurants, lunchrooms, etc. Connecticut Turnpike at Fairfield only; LB **$2,540,500** (6 bidders) same above at Milford location only. Bids Feb. 14. CD 2/8.

BUILDINGS—LB & CA

† **Veterans Admin.**, Munitions Bldg., Wash., D. C. cancelled bids to have been opened Feb. 12, relocation of Research Laboratory Bldg. No. 1, Veterans Admin. Hospital, BOSTON, MASS. CD 12/31.

▲ **Jenney Bros., Inc.**, Commerford Rd., Concord, Mass. CA Approx. **$1,000,000.** metallurgical LABORATORY and MACHINE SHOP off Rte. 62, CONCORD, MASS. Memorial Drive Trust, c/o Arthur D. Little, Inc., 30 Memorial Dr., Cambridge, Mass. John Quincy Adams, Old Concord Rd., Lincoln, Mass., archt. CD 11/23.

▲ **E. C. Blanchard**, Lynn, Mass. CA **$2,500,000.** MANUFACTURING BAY addn.; **$1,000,000** OFFICE, LYNN, MASS. General Electric Co., River Rd., Schenectady, N. Y. CD 3/27.

Anthony Scancillo, 63 Ames St., Dedham, Mass. CA Approx. **$190,000.** meat processing PLANT, 220 Quincy St., ROXBURY, MASS. Bernstein & Pearl, Inc., 11 Sweetforn Terrace, Roxbury, Mass. Bids Nov. 5. CD 11/8.

▲ **John Capobianco**, 101 Tremont St., Boston, Mass. LB **$1,416,000,** Proposition No. 1, **$1,370,000,** Proposition No. 2, est. $1,618,800. E-802, GYMNASIUM and LIBRARY, State Teachers College, WORCESTER, MASS. State, Dpt. Educ., c/o Div. Bldg. Constr., 38 Chauncy St., Boston, Mass. Bids Feb. 15. CD 1/23.

▲ **City, School Comn.**, Park Ave., Cranston, R. I., rejected bids Dec. 19, JUNIOR-SENIOR HIGH SCHOOL, off Phenix and Park Aves., CRANSTON, R. I. LB **$3,990,000.** Will re-advertise. CD 12/26, under LB.

▲ **A. Bacchiochi & Sons**, Bailey Ave., Ridgefield, Conn. CA **$1,107,778.** Millridge SCHOOL, DANBURY, CONN. Bd. Educ., Danbury, Conn. Bids Jan. 22. CD 1/31, under LB.

▲ **Bd. Educ.**, Glastonbury, Conn., cancelled bids to have been opened Feb. 25, ELEMENTARY SCHOOL, Hebron Ave., GLASTONBURY, CONN. CD 2/12.

MIDDLE ATLANTIC

HEAVY CONSTRUCTION—BA

† N. Y., Westhampton Beach—PRIMARY DISTRIBUTION SYSTEM—BA 3/5—U. S. Eng., 111 E. 16 St., New York, Zone 3, change to primary distr. sys. (FY 57 program), Suffolk County Air Force Base, ENG-30-075-57-333. CD 1/30.

N. Y., Brooklyn—ENCLOSURES—BA 3/8—New York City Transit Auth., 370 Jay St., Zone 1, constr. enclosures and finish for southerly mezzanine DeKalb Ave. Station (Broadway-Fourth Avenue Line), Contr. C-121.

N. Y., Brooklyn—PIER IMPRVS.—BA 3/12—Office of Chief Engineer of the Port of New York Auth., 111 Eighth Ave., New York, Zone 11, furnishing, installing concrete sidewalks, steel faced concrete curbing and catch basin at southwest corner of Furman and Fulton Sts., Brooklyn Piers.

▲† **N. Y., Niagara Falls**—RUNWAY EXTENSION—BA On Or About 3/20—U. S. Eng., 111 E. 16 St., New York, Zone 3, constr. runway exten., incl. grading site, concrete pavement for runway exten., concrete pavement for taxiway extension and warm-up holding apron, concrete pavement for taxiway wid'n. lane complete, stabilized runway over-run, Niagara Falls Air Force Base, ENG-30-075-57-36, $2,000,000-$2,300,000. CD 11/1.

† **N. Y., Plattsburgh**—PAVING—BA On Or About 3/20—U. S. Eng., 111 E. 16 St., New York, Zone 3, constr. addnl. paving Class "A" roads, Plattsburgh Air Force Base, ENG-30-075-57-339. Plans deposit $5.

Pa., York—BA 3/20—Springettsbury Twp. Sewer Auth. of Springettsbury Twp., York Co., Springetts Fire House, 2914 E. Market St., York, approx. 18.5 mi. 5- to 12-in. vitr. clay sewer. Plans deposit $30. Weigle Engineering Co., 30 N. Duke St., engr.; adv. ENR 2/28.

† **New York**—BA On Or About 3/21—U. S. Eng., foot of Bridge St., Buffalo, Zone 7, constr. aids to navigation, Stage I, St. Lawrence Seaway, St. Lawrence River for St. Lawrence Seaway Development Corp., CIVENG-30-023-57-30. CD 9/9/54.

BUILDINGS—BA

† **Md., White Cak**—BUILDING—BA 3/6—Dist. P. Wks. Office, Potomac River Naval Command, Naval Gun Factory, Wash., D. C., Bldg. 405 addn. at Naval Ordnance Laboratory, NBy 6034.

N. Y., Hermon—SCHOOL—BA 3/12—School Bd., Towns of Hermon, DeKalb, Canton and Russell, constr. Central School. $975,000. Urbahn, Brayton & Burrows, 654 Madison Ave., New York, archts.

Pa., York—SUBSTATION—BA 3/13—General State Auth., 18 and Herr Sts., Harrisburg, constr. substation garage and examining field for Pennsylvania State Police. $200,000. Plans deposit $10. The Ballinger Co., 121 N. Broad St., Phila., engr. CD 8/30.

HEAVY CONSTRUCTION—LB & CA

▲ **NEW YORK**—John W. Johnson, supt. Dpt. P. Wks., The Gov. Alfred E. Smith State Office Bldg., Albany,

Chemung Contg. Corp., Elmira, N. Y. CA **$1,076,525.** Est. $1,136,000. (1 bidder) reconstr. 2.05 mi. sect. of Rte. 17E through West Elmira, Chemung Co. CD 12/21, under LB.

▲ **Robert E. Foley Constr. Corp.**, 48 Griswold St., Binghamton, N. Y. LB **$1,194,395.** (6 bidders) complete installation of 230 kv transmission line between Barnhart Island and Plattsburgh, Spec. PA 6-25, Contr. T-2, NEW YORK. The Power Authority of the State of New York, 270 Broadway, New York 7, N. Y. Bids Feb. 14. CD 1/31.

F. Franzese & Sons, 289 Logan St., Brooklyn 8, N. Y. LB **$180,360.** (13 bidders), storm sewers, appurtenances in 112 Ave.; sanitary sewer, appurtenances in 112 Ave., Fourth Ward, NEW YORK. President Queens Boro, Queens Boro Hall, 120-55 Queens Blvd., Kew Gardens 24, N. Y. Bids Feb. 8. CD 2/1.

▲ **Greenfield Constr. Co.**, 15601 W. McNichols St., Detroit, Mich. CA **$1,424,822.** water transmission main in towns of Hamburg and Evans, BUFFALO, N. Y. Erie County Water Auth., 338 Ellicott Square Bldg., Buffalo 3, N. Y. Bids Jan. 24. CD 12/17.

Broadway Maintenance Corp., 22-09 Bridge Plaza N., Long Island City, N. Y. CA **$347,000.** erection and electrification floodlight towers, furnished by others incl. without limitation the furnishing, installation of equip., therefore, floodlight towers to be located in Central Terminal area, New York International Airport, Contr. NYA 650.041, IDLEWILD, N. Y. Port of New York Auth., 111 Eighth Ave., New York 11, N. Y. Bids Feb. 12. CD 2/7.

† **Eastern Engineering Co.**, 4 N. Carolina Ave., Atlantic City, N. J. LB **$261,237.** (2 bidders) dredging to depth of 12, 9 and 6 ft. below mean low water involving removal approx. 280,900 cu. yd. place measurement of all material except ledge rock from portions of Shrewsbury and Navesink Rivers, Monmouth Co., CIVENG-30-075-57-56, NEW JERSEY. U. S. Eng., 111 E. 16 St., New York 3, N. Y. CD 1/25.

▲ **Bd. Freeholders Hudson Co.**, Courthouse, Jersey City, N. J., rejected bids Dec. 13, bridge between Hoboken and Weehauken at Park Ave., JERSEY CITY, N. J. LB **$1,307,713.** CD 1/11, under LB.

DELAWARE—State Hy. Dpt., Dover,

Standard Bitulithic Co., Mt. Pleasant, Del., LB **$495,259.** c. conc. wid'n., b. conc. resurf. 7.017

PROJECTS COVERED

By Size

Construction projects here reported cover the United States and Canada, are of these minimum sizes or larger: water supply, earthwork, waterways $44,000; other public works $73,000; industrial buildings $93,000; other buildings $344,000. Also Foreign projects of $100,000 and more in size of interest to American contractors.

By Regions & Classes of Construction

(In order of Listing)

BIDS ASKED
LOW BIDDERS
CONTRACTS AWARDED

New England
Middle Atlantic
South
Middle West
West of Mississippi
Far West

PROPOSED WORK
Water Supply
Sewers, Waste Disposal
Bridges
Streets & Roads
Earthwork, Waterways
Public Buildings
Mass Housing
Commercial Buildings
Industrial Buildings
Unclassified

In These Stages

PROPOSED WORK: Before and including appointment of engineers or architects.

BIDS ASKED: BA (new announcements only). For full calendar, see also preceding issues.

SOON LETS CONTRACT: SLC

LOW BIDDERS: LB On jobs below $500,000 in value all low bidder news will be the final reports published on the projects involved except where award is not made to the low bidder. In this case, a supplementary contract award report will be published.

CONTRACTS AWARDED: CA Except awards to low bidders previously reported in low bidder stage.

CD dates shown are of Construction Daily Issue in which last previous report was published.

OWNERS, ENGINEERS, ARCHITECTS, CONTRACTORS are invited to report their new jobs for listing in these reports when they meet or exceed the size minimums shown above. Address these news releases to J. A. Mahoney, REPORTS, ENGINEERING NEWS-RECORD, 330 W. 42 St., New York 36, N. Y.

Symbols and Abbreviations Include:

†	**Federal Government**
▲	Project of $1,000,000 or over.
ENR	**Engineering News-Record**
CD	**Construction Daily**

For additional reports see Construction Daily.

mi. Contract 1489, Ellendale to Milton, Fed. Aid Proj S-614 (4). Bids Feb. 6.

HEAVY CONSTRUCTION—LB & CA

Gotham Constr. Corp., 501 Fifth Ave., New York 36, N. Y. CA Est. **$700,000.** 4 story HOSPITAL addn., ASTORIA, N. Y. Long Island Boulevard Hospital, 4604 31 Ave., Astoria, N. Y. Wuest & Bailey, 32-02 30 Ave., Long Island City, N. Y., archts.

▲ **Abe & Solm Klapper,** c/o Paul H. Tannenbaum, 160-16 Jamaica Ave., Jamaica, N. Y. Owner Builds. **$4,500,000.** 150 HOUSES on 60 acres former Appleby Estate, GLEN COVE, N. Y.

▲ **Guild Estates,** c/o Herman H. York, archt., 90-04 161 St., Jamaica, N. Y. Owner Builds. **$1,000,000.** 60 HOUSES on tract on Bloomingdale Rd. south of Broadway, HICKSVILLE, N. Y.

▲ **Uris Brothers,** 300 Park Ave., New York 17, N. Y. Owner Builds. **$30,000,000.** 30 story OFFICE, 2 Broadway to replace present produce exchange bldg., NEW YORK, N. Y. Emery Roth & Sons, 575 Madison Ave., New York 22, N. Y., CD 8/8, under Syndicate, c/o Charles F. Noyes Co., as owner.

F. W. O'Connell, Inc., 329 Water St., Binghamton, N. Y. LB **$364,843.** (9 bidders) Elementary SCHOOL, OWEGO, N. Y. Central School Dist. No. 1, Owego, N. Y. Fudge & Underhill, 105 W. Church St., Elmira, N. Y., archts. Bids Feb. 5.

▲ **Vincent J. Smith, Inc.,** Johnson City, N. Y. and **William L. Crow Constr. Co.,** 101 Park Ave., New York, N. Y. CA Est. **$3,500,000.** 100,000 sq. ft. 2nd unit ENGINEERING BLDG. addn. and 58,000 sq. ft. ADMINISTRATION BLDG. addn., OWEGO, N. Y. Internationl Business Machines Corp., 590 Madison Ave., New York 22, N. Y. Giffels & Vallet, Inc., L. Rossetti Associated Engineers & Architects, 1000 Marquette Bldg., Detroit, Mich., archts.

Gotham Constr. Corp., 501 Fifth Ave., New York 36, N. Y. CA Est. **$750,000.** 3 story, bsmnt HOSPITAL wing addn., PRINCE BAY, N. Y. Richmond Memorial Hospital, 375 Seguine Ave., Prince Bay, N. Y. CD 3/29.

▲ **Johnson, Drake & Piper, Inc.,** 86 Trinity Place, New York, N. Y. LB **$1,196,675.** general constr. JUNIOR HIGH SCHOOL, WEST SENECA, N. Y. West Seneca Central School, West Seneca, N. Y. Bids Jan. 10. CD 12/18.

Arrowhead Park Homes, c/o Jacob Wind, Jr., archt., 1444 N. Broad St., Hillside, N. J. Owner Builds. **$680,000.** 57 HOUSES on tract at Midstream Rd. near Garden State Parkway, BRICK TWP., N. J.

General Builders, 45 N. Stockton St., Trenton, N. J. CA **$413,000.** Elementary SCHOOL, Boonton Ave., KINNELON, N. J. Bd. Educ., Boro of Kinnelon, Kinnelon, N. J. Micklewright & Mountford, E. Stuyvesant Ave., Trenton, N. J., archts. CD 5/25.

▲ **Fister Constr. Co.,** Atlantic City, N. J. LB **$1,138,149.** (12 bidders) general constr. County OFFICE, MOUNT HOLLY, N. J. Bd. Freeholders Burlington Co., Mount Holly, N. J. Bids Feb. 7. CD 1/21;
A. A. Duckett, Inc., 136 N. Broadway, Camden, N. J. LB **$356,253.** (6 bidders) heating and ventilating work (Mount Holly, N. J.).

▲ **The Austin Co.,** 600 Fifth Ave., New York, N. Y., CA Est. **$1,000,000.** 76,000 sq. ft. PLANT to mfg. electronic devices, PRINCETON JUNCTION, N. J. Applied Science Corp. of Princeton, Princeton Junction, N. J. Kenneth Kassler Associates, Nassau St., Princeton, N. J., archts. CD 11/15/55.

▲ **Turner Constr. Co.,** 1500 Walnut St., Phila., Pa. CA **$5,928,000.** general constr. 5 bldgs. at Embreeville State HOSPITAL, incl. admin. bldg., acute intensive treatment bldg., disturbed patients' bldg., senile patients' bldg., boiler house addn., maintenance shop, auto storage, water treatment, etc., EMBREEVILLE, PA. General State Auth., 18 and Herr Sts., Harrisburg, Pa. CD 2/1, under LB.

▲ **Turner Constr. Co.,** 150 E. 42 St., New York 17, N. Y. CA Est. **$2,700,000.** 1 story, 168x188 ft. rein.-con. administration and experimental LABORATORY, REACTOR BLDG., and UTILITY BLDG., PLAINSBORO, N. J. Industrial Reactor Laboratories, Inc., (National Lead Co., American Tobacco Co., Continental Can Co., Corning Glass Works, American Machine & Foundry Co., Socony Mobile Oil Co., United States Rubber Co., Radio Corp. of America and National Distillers Products Co., Atlas Power Co., Plainsboro, N. J. Skidmore, Owings & Merrill, 575 Madison Ave., New York, N. Y. archts. Severud-Elstad-Krueger, 415 Lexington Ave., New York 17, N. Y., struct. engrs. Guy B. Panero, 420 Lexington Ave., New York, N. Y., mech. engr.

▲ **John McShain, Inc.,** 3501 Sinclair Lane, Baltimore 13, Md. CA **$3,190,000.** Lemmell JUNIOR HIGH SCHOOL, BALTIMORE, MD. City, Bureau Bldg. Constr., 410 Municipal Bldg., Baltimore, Md. CD 2/11, under LB.

† **Dist. P. Wks. Office,** Potomac River Naval Command, Naval Gun Factory, Wash., D. C., rejected bids Jan. 23, Building 70 alterations, Naval Research Laboratory, WASH., D. C. CD 12/28.

SOUTH

HEAVY CONSTRUCTION—BA

† N. C., **Goldsboro**—BUILDINGS—BA 3/12—U. S. Eng., 308 Customhouse, Wilmington, misc. modifications to bldgs., Seymour Johnson Air Force Base, ENG-31-075-57-31. CD 8/27.

† Miss., **Columbus**—RAILROAD SPURS—BA On Or About 3/14—U. S. Eng., 2301 Grant St., Mobile, Ala., railroad spurs to P.O.L. and warehouse areas at Columbus Air Force Base, ENG-01-076-57-65. CD 8/23.

† **Georgia**—BA 3/14—U. S. Eng., 200 E. St. Julian St., Savannah, new work dredging Savannah Harbor between Station 94 plus 000 to 103 plus 000 about 3.2 mi. above Savannah, in vicinity of Georgia Port Authority Terminals, CIVENG-09-133-57-121. Extended date. CD 1/7.

† **TENNESSEE**—BA 3/15—Bureau P. Rds., Dpt. Commerce, First National Bank Bldg., Florence, Ala.
Lewis Co.—Proj. 1F1, grading, draining, grav. or stone base course 8.798 mi. from 0.6 mi. south of Little Buffalo River to near Little Swan Creek, Natchez Trace Parkway; adv. ENR 2/28.

Fla., **Fort Lauderdale**—BA 3/18—City Comn., City Hall, sewage treatment plant "B" and appurtenances. Plans deposit $25; adv. ENR 2/28. CD 5/17/54.

† Miss., **Columbus**—HOSPITAL—BA On Or About 3/20—U. S. Eng., 2301 Grant St., Mobile, Ala., 2 story rein.-con. base hospital at Columbus Air Force Base, ENG-01-076-57-55. CD 2/7/56.

† Miss., **Columbus**—QUARTERS—BA On Or About 3/21—U. S. Eng., 2301 Grant St., Mobile, Ala., 2 story concrete officers' quarters at Columbus Air Force Base, ENG-01-076-57-37. CD 8/23.

N. C., **Fort Bragg**—BA 3/21—U. S. Eng., 308 Customhouse, Wilmington, N. C., off-site roads for Capehart Housing Area, ENG-31-075-57-34. CD 2/26/54, under Public Buildings.

† Fla., **Pensacola**—OFFICE—BA 4/2—Officer in Charge of Constr., Building 45, U. S. Naval Air Station, Pensacola, office in Building 74, Naval Air Station NBy-7794, Spec. 779456. CD 1/7.

BUILDINGS—BA

Fla., **Sanford**—DISTRIBUTION CENTER etc.—BA 3/8—Florida Power & Light Co., Sanford, distribution center, office bldg., renovating warehouse site imprvs. Plans deposit $100. John A. Burton, IV, 507 Sanford Atlantic National Bank, archt.

Ga., **Atlanta**—COMMUNITY CENTER—BA 3/12—Atlanta Housing Auth., 419 Trust Co. of Ga. Bldg., 211-215 Bona Allen Bldg., constr. Child Care and Community Center for Carver Community, Proj. No. GA-6-6, Ayers & Godwin Arch. 211-215 Bona Allen Bldg. archts.

▲ N. C., **Charlotte**—HEADQUARTERS—BA 3/14—Esso Standard Oil Co., 300 Gervais St., Columbia, S. C., division headquarters bldg. $1,000,000. J. N. Pease & Co., Inc., 119½ E. 5 St., archt.-engr.

† S. C., **Charleston**—GASOLINE STATION—BA 3/14—Dist. P. Wks. Office, Bldg. No. 13, U. S. Naval Base, Charleston, gasoline station, U. S. Naval Fleet Training Center, U. S. Naval Base, NBy-7882. Spec. 7882/56. Plans deposit $10. CD 9/17/51.

† Va., **Norfolk**—BARRACKS—BA 3/19—Dist. P. Wks. Office, Fifth Naval Dist., U. S. Naval Base, Norfolk, 166-man enlisted men's barracks, Harbor Defense Unit, Little Creek, NBy-7722, Spec. 7722/56. Plans deposit $40. CD 8/24, under Unclassified.

▲ Va., **Portsmouth**—NAVAL HOSPITAL—BA 4/16—P. Wks. Office, Fifth Naval Dist., U. S. Naval Base, Norfolk, Zone 11, 16-story T-shaped, 800-bed, air-conditioned Naval Hospital. $13,000,000. Plans deposit $350. CD 8/20/52, under Va., Norfolk.

▲ Ala., **Mobile**—OFFICE SUPERSTRUCTURE—Bids Asked—Alabama Power Co., Alabama Power Bldg., Birmingham, Zone 2, superstructure for 4 story, bsmnt rein.-con. office bldg. $1,200,000. Platt Roberts & Co., Merchants National Bank Bldg., archts.

BUILDINGS—SLC

Ala., **Mobile**—OFFICE SUPERSTRUCTURE—Alabama Power Co., Alabama Power Bldg., Birmingham, soon lets contract, superstructure for 5 story, concrete, steel office. $850,000. CD 2/18.

HEAVY CONSTRUCTION—LB & CA

Waite & Underwood, Inc., Charlottesville, Va., LB $109,616 (4 bidders) swimming pool and bath house, CHARLOTTESVILLE, VA. American National Red Cross, 17 St. between D and E Aves. N. W. Wash., D. C., Stainback & Scribner, 112 Third St. N. E., Charlottesville, Va., archts.

† **Wyle Maddox,** Chincoteague, Va., LB **$187,500,** (3 bidders), pavement repairs and joint sealing, Naval Air Station, NBy-3722, CHINCOTEAGUE, VA.; Pub. Wks. Office, 5th Naval Dist., U. S. Naval Base, Norfolk 11, Va. Bids Feb. 12, CD 1/23/57.

† **Whitlock-Dunn,** P. O. Box 865, Portsmouth, Va., LB **$229,546,** addn. to BOQ's Fleet Air Defense Training Center, Dam Neck, NBy-7672, DAM NECK, VA., Pub. Wks. Office, 5th Naval Dist., U. S. Naval Base, Norfolk 11, Va., Bids 2/12, CD 1/23.

† **A. W. Barnhart Co.,** Tester, N. Y., LB **$80,870,** (7 bidders), Detention Screens Bldgs., 1, 2, 3, 4, and 5 incl. 527 screens and bent plate metal trim, concrete filling, plaster and other patching, etc., AUGUSTA, GA. Veterans Admin., Munitions Bldg., Wash., D. C. Bids 2/13. CD 2/1.

FLORIDA—State Rd. Dpt., Tallahassee,
Fla.—**Cleary Bros. Constr. Co.,** Box 6397, West Palm Beach, Fla., LB **$90,436** (5 bidders) bridge exten., SR S-702, Job 9351-101; bridge exten., SR S-809-A, Job 9360-105, bridge, SR A-1-A, Job 9309-108, all Palm Beach Co.;
Fla.—**Ralph E. Mills Co.,** Fort Lauderdale, Fla., LB **$84,107** (2 bidders) Limestone Creek Bridge and approaches, SR-S-706 Job 9362-102, Palm Beach Co. Bids Feb. 12. CD 1/28.

▲ **FLORIDA**—State Road Dpt., Tallahassee,
Fla.—**Jas. H. Craggs Constr. Co.,** Box 22, Gainesville, Fla., LB **$664,729** (5 bidders) limerock base, surf. 6.129 mi. SR A-1-A, Job 8904-103 Martin Co.; LB **$98,695** (3 bidders) limerock stab. base, surf. tr. 3.421 mi. SR S-325, Job 2657-150, Alachua Co.;
Fla.—**Cone Bros. Contr. Co.,** Box 1301, Tampa., Fla., LB **$1,125,530** (5 bidders) one 180 ft. conc. slab deck bridge on conc. piling bents, two box culverts, small drainage structures, limerock base, with b. conc. surf. course 9.446 mi. SR 710, Job 9331-101, Palm Beach Co.; LB **$225,474** (5 bidders) limerock base surf. tr. 5.001 mi. SR S-858, Job 0353-151, Collier Co.;
Fla.—**H. E. Wolfe Constr. Co.,** Box 1361, St. Augustine, Fla., LB **$1,145,243** (4 bidders) limerock base, with b. conc., resurf. existing pavement with b. conc. surf. course, one 100 ft. concrete bridge on con. piling, reconstr. 1 span and two piers on existing overpass SR 20, drainage structures 7.305 mi. SR No. 5 (& S 1), F 003-6 (9) Job 7301-276 and Job 7301-175, Flagler Co.;
Fla.—**Coffee Constr. Co.,** Eastman, Ga., LB **$650,112** (9 bidders) limerock base with b. conc. binder course, one 225 ft. concrete slab bridge on concrete piling, 7.449 mi. SR 20, F 016-2 (15), Job 3802-204 (US 19) Taylor Co.;
Fla.—**J. W. Conner & Sons, Inc.,** Box 2522, Tampa, Fla., LB **$151,621** (5 bidders) heavy excav. one 120 ft. concrete deck bridge on concrete piling small drainage structures, 4.003 mi. SR S-39, S-226 (5), (Job 1053-251), Hillsborough Co.;
Fla.—**J. D. Manly Constr. Co.,** Box 586, Leesburg, Fla., LB **$609,528** (8 bidders) limerock base with hot binder course, b. conc., surf. course, storm sewers 2.474 mi. SR 64, Job 1315-181, Manatee Co.;
Fla.—**Hadley Constr. Co.,** Box 1260, Clearwater, Fla., LB **$86,620** (8 bidders) limerock base, b. conc. surf. course, storm sewers 0.503 mi. Job 1560-151, Pinellas Co.;
Fla.—**W. H. Armston Co. Inc.,** Dunedin, Fla., LB **$630,380** (5 bidders) concrete sheet pile bulkheads, extra heavy hydraulic embankment, SR 780, Job 1703-109; concrete sheet pile bulkhead rock fill, hydraulic embankment, 1,366 mi. SR 45, Job 1702-115, Sarasota Co.;
Fla.—**Ralph E. Mills Co.,** Fort Lauderdale, Fla., LB **$97,508** (4 bidders) limerock base 75 ft. and 100 ft. concrete slab deck bridges 1 mi. S-809, Job 8655-151, Broward Co.;
Fla.—**A. B. Covell,** Defuniak Spring, Fla. LB **$177,873** (3 bidders) surf. tr., base, storm sewers 3.79 mi. Job 5750-154, Okaloosa Co.;
Fla.—**Macasphalt Corp.,** Lakeland, Fla., LB **$227,246** (9 bidders) b. conc. 19.232 mi. SR 15, Job 9206-801, Osceola Co.;
Fla.—**Geo. G. Tapper Co., Inc.,** Port St. Joe, Fla., LB **$109,760** (4 bidders) stab. base, surf. tr. 2.768 mi. SR S-387, Job 5159-150 Gulf Co.;
Fla.—**Georgia-Florida Paving Co.,** Chiefland, Fla., LB **$129,812** (8 bidders) sand-asph. hot mix surf. 21.214 mi. SR 6, Jobs 3502-801 and 3205-801, Madison and Hamilton Counties;
Fla.—**Marion Constr. Co.,** Box 577, Ocala, Fla., LB **$639,746** (4 bidders) limerock base with b. conc. binder course 1.942 mi. SR 40 Job 3608-112, Marion Co.;
Fla.—**Noonan Constr. Co.,** Drawer 470, Pensacola, Fla., LB **$120,913** (2 bidders), b. conc. surf. course 10.48 mi. SR 95, Job 4804-801 and 4806-801, Job 4872-850, Escambia Co.;
Fla.—received no bids Feb. 12, grading, base, surf. 0.885 mi. Job 5554-150, Edenfield Rd., Leon Co. Bids Feb. 12. CD 1/28.

† **Southern Roadbuilders, Inc.,** 2312 Ada Ramo Waldon Rd., Augusta, Ga., CA **$255,113,** Item No 1; **$240,111** Item No. 2, repairs to paving seaplane parking area, U. S. Naval Air Station, NBy 8675, Spec. 8675/56. JACKSONVILLE, FLA. Sixth Naval Dist. Bldg. 1a. Naval Base, Charlestown, S. C. Bids Jan. 24. CD 1/3.

Keller Constr. Corp., P. O. Box 439, New Orleans 1, La. CA **$665,452.** completion of reconstr. of First Street Wharf, NEW ORLEANS, LA. Port of New Orleans, No. 2 Canal St., New Orleans, La. CD 2/6, under LB.

Mather Constr. Co., P. O. Box 388, Jeffersonville, Ind. LB **$755,554.** (10 bidders) supporting facilities incl. roads, culverts, sanitary sewers, water lines, gas lines, electrical distr. systems, for Capehart Housing, ENG-15-029-57-24, FORT KNOX, KY. U. S. Eng., 830 W. Broadway, Louisville, Ky. Bids Feb. 14. CD 1/17.

BUILDINGS—LB & CA

▲ **M. T. Broyhill & Sons Corp.,** 4610 Lee Hy., Arlington, Va., Owner Builds. **$1,000,000.** 60 HOMES, Lincolnia Hills, FAIRFAX, VA.

C. B. Askins & Co., Lake City, S. C., LB **$433,000,** Cades Elementary and High School 62,700 sq. ft., CADES, S. C., Williamsburg Co. Bd. Educ., Cades, S. C. Bids Feb. 5, CD 1/18.

† **Inscho's Plumbing & Heating Co.,** 2231 20Ave. S. Birmingham, Ala., CA **$186,150.** SHOP BUILDINGS 682 and 689 modifications, addns. for air-conditioning, Redstone Arsenal, No. 01-076-57-52, HUNTSVILLE, ALA. U. S. Eng., 2301 Grant St., Mobile 7, Ala. Bids Jan. 22. CD 12/19.

▲ **Blount Brothers Constr. Co.,** Bell Bldg., Montgomery, Ala., CA Total est. **$1,200,000.** substructure for 4 story, bsmnt., rein.-con. OFFICE BLDG., MOBILE, ALA. Alabama Power Co., Alabama Power Bldg., Birmingham 2, Ala. Platt Roberts & Co., Merchants National Bank Bldg., Mobile, Ala., archts.

▲ **Farnsworth & Chambers Co., Inc.,** Box 332, New Orleans, La. CA **$1,839,000.** 2 story, brick, concrete Belle Chasse HIGH SCHOOL, POINTE A LA HACHE, LA. Plaquemines Parish School Bd., Pointe a la

Hache, La. Bids Dec. 18, awarded Feb. 7. CD 1/4, under LB.

Steilberg Constr. Co., P. O. Box 13, Shively, Ky. LB **$391,424.** 2 story, bsmnt., 64x217 ft., 48x170 ft. L-shaped brick, concrete CHURCH, N. Miles St., ELIZABETHTOWN, KY. Helm Methodist Church, 240 W. Dixie Hy., Elizabethtown, Ky. Bids Feb. 8. CD 1/30.

† **Ranney Constr. Co.,** 4395 Poplar Level Rd., Louisville, Ky. CA **$582,324,** est. $643,462. (11 bidders) field officers' quarters 20 units, ENG. 15-029-57-38, FORT KNOX, KY. U. S. Eng., 830 W. Broadway, Louisville, Ky. Bids Jan. 29, awarded Feb. 13. CD 2/4, under LB.

▲ **Robert Simmons Constr. Co.,** 840 Barrett Ave., Louisville, Ky. LB **$1,548,000.** (11 bidders) County HIGH SCHOOL, FRANKFORT, KY. Franklin Co. Bd. Educ., Charles Hart, county school supt., Capital Hotel Bldg., Frankfort, Ky. Bids Feb. 14. CD 12/27

MIDDLE WEST

HEAVY CONSTRUCTION—BA

▲ **ILLINOIS**—BA 3/7—Illinois State Toll Hy. Comm. 20 N. Wacker Dr., Chicago,

Contract N-4-D, grading, drainage, paving, appurtenances precast concrete bridges 4.09 mi. South of Elgin beginning near State Route 59 and extending easterly to near State Rte. 3 south of Elgin, Kane Co., $4,500,000. Casler & Stapleton and Brown & Blauvelt, Huntley, section engrs.

Contract N-7-B grading, drainage, paving, appurtenances precast concrete and structural steel bridges 3.53 mi. beginning E of Elmhurst Rd. southeasterly to near Devon and Higgins Rd. Cook Co., $2,750,000. Crawford, Murphy & Tilly, 755 S. Grand St. W., Springfield, section engrs. CD 5/11.

BUILDINGS—BA

▲ **O., Cincinnati**—TEACHERS COLLEGE, etc.—BA 3/7—University of Cincinnati, Burnet Woods Park, Cincinnati, teachers college, botany, zoology and physics bldg. $1,600,000. Plans deposit $75. Cyrus Baxter & Assoc., Oak St., Mariemont, archts. CD 1/4.

▲ **O., Freemont**—SCHOOL—BA 3/22—Bd. Educ., Fremont, high school. $1,800,000. McLaughlin & Keil, 500 Dominion Bldg., Lima, archts.

Ind., **Woodburn**—HIGH SCHOOL—BA 3/14—Jefferson-Maumee-Milan School Bldg. Corp. Donald Gundy, pres., Woodburn high school, Bradley & Bradley, 1115 S. Clinton St., Fort Wayne, archts.

▲ **Mich., Adrian**—SCHOOL—BA 3/28—City, Bd. Educ., Adrian Senior High School in northwest sect., $3,000,000. CD 2/24/56.

BUILDINGS—SLC

▲ **O., Cincinnati**—LABORATORY—Jewish Hospital, Burnet Ave., soon lets contract laboratory extens. at Jewish Hospital. $1,336,000. Hall-McAllister & Stockwell, 706 Walnut St., engrs. CD 9/15/55.

HEAVY CONSTRUCTION—LB & CA

Foley Constr. Co., 5050 Orchard, Cincinnati, O., CA **$737,244,** est. $632,000. Sect. 5, east branch Ohio River Interceptor, CINCINNATI, O., City, City Hall, Cincinnati, O. CD 2/11, under LB.

National Constr. Co., 23500 Lakeland Blvd., Cleveland 23, O., CA **$944,150,** est. $900,000. Clague-Westwood water mains, CLEVELAND, O., City, Dp. P. Utils., City Hall, Cleveland 14, O. Bids Jan. 25, awarded Feb. 6. CD 2/1, under LB.

Walker-Fauber Constr. Co., Ashland, O., CA **$501,470,** sewers-gathering lines and trunk sewers for Liberty Sub-district No. 1, serving Liberty TWP. and pumping sewage into Youngstown disposal plant, YOUNGSTOWN, O. Comrs. Trumbull Co., Courthouse, Warren, O. Bids Feb. 4, CD 1/24, under LB.

▲ **ILLINOIS**—State Toll Hy. Comn., 20 N. Wacker Dr., Chicago, Zone 6,

John C. Peterson Constr. Co., 958 Church St., Baldwin, N. Y., CA **$1,670,398.** Contr. N-1-C, grading, drainage, paving 3.07 mi. beginning Station 745, extending to Station 906 plus; also, concrete, steel bridges, W. of Rockford, Winnebago Co. Bids Jan. 17, awarded Feb. 8. CD 1/22, under LB.

▲ **ILLINOIS**—Illinois State Toll Hy. Comn., 20 N. Wacker Dr., Chicago,

Gust K. Newberg Constr. Co. and Hoyle-Newberg Constr. Co., 2040 N. Ashland Ave., Chicago, Ill. CA **$12,193,953.** Contrs. T-12-A, T-12-B and T-12-C, grading, drainage, paving, precast concrete steel bridges beginning near Duffy Lane to near State Rte. 120, 12.2 mi. Lake Co. Bids Jan. 31, awarded Feb. 8. CD 2/5, under LB.

▲ **ILLINOIS**—Illinois State Toll Hy. Comn., 20 N. Wacker Dr., Chicago,

Contracting & Material Co., 1235 Dodge St., Evanston, Ill., Kenny Constr. Co., 3220 Oakton St., Skokie, Ill., and **Louis Garavaglia,** 24240 Mound St., Centerline, Mich. CA **$3,487,739.** Contr. N-6A, grading, draining, paving, etc., precast concrete bridges 4.64 mi. from E. of Fox River to E. of Bartlett Rd., Kane Co. Bids Jan. 31, awarded Feb. 8. CD 2/7, under LB.

▲ **ILLINOIS**—Illinois State Toll Hy. Comn., 20 N. Wacker Dr., Chicago,

Charles Ind Co., R.R. 1, Point Ave., Rockford, Ill. CA **$2,713,818.** Contr. N 3A, grading, draining, paving 4.03 mi. beginning Station 400 to Station 613, also precast concrete and structural steel bridges near Belvidere, Winebago Co. Bids Jan. 17, awarded Feb. 8. CD 1/22, under LB.

▲ **ILLINOIS**—Illinois State Toll Hy. Comn., 20 N. Wacker Dr., Chicago,

ITHC—**S. J. Groves & Sons,** 1104 W. Reynolds St., Springfield, Ill. CA **$4,426,288.** Contr. E-1-D, grading, draining, paving, appurtenances, precast concrete bridges, beginning 3600 ft. W. of State Rte. 59 extending 3,000 ft. east of Rte. 5, 5.67 mi., DuPage Co.;

ITHC—**E. A. Meyer Constr. Co.,** 1539 Morrow Ave., North Chicago, Ill., and **Eric Bolander Constr. Co.,** Winchester Rd., Libertyville, Ill. CA **$2,699,793** Contr. T-11A, grading, draining, paving, appurtenance, precast, concrete bridges, beginning Lake-Cooke County Rd. extending north 3.07 mi. near Deerfield, Lake Co.;

ITHC—**H. H. Mass Constr. Co.,** Algonquin, Ill.; McCarthy Improv. Co., 602 Kahl Bldg., Davenport, Iowa. and **Dillon Stone Co.,** Columbus Junction, Iowa. CA **$4,115,242.** Contr. N-4-C, grading, draining, paving, appurtenances, precast concrete bridges beginning S. of Village of Gilberts, extending E 6.40 mi. south of Gilberts, Kane Co. Bids Jan. 24, awarded Feb. 8 Grand total $11,241,323. CD 1/28, under LB.

▲ **Robert R. Anderson,** 4550 W. Patterson St. Chicago, and **Hedges Constr. Co.,** 5915 N. Rogers Ave., Chicago, Ill., LB **$1,717,940.** Sect. 1-C-4, main ramps Calumet Skyway Toll Bridge, into Michigan Ave. and Indiana Ave. from E. 61 St. to S. Lawrence Ave. CHICAGO, ILL. City, City Hall, Chicago, Ill. Bids Feb. 6. CD 1/25.

Sjostrom & Sons., Inc., Rockford, Ill., LB **$103,348,** airport control tower, ROCKFORD, ILL., Greater Rockford Airport Auth., Rockford, Ill. CD 1/3.

BUILDINGS—LB & CA

▲ **Sam W. Emerson Co.,** 1836 Euclid Ave., Cleveland, O., CA Est. **$5,000,000.** Metallurgical and chemical LABORATORIES for research center, EUCLID, O. Thompson Products, Inc., 23555 Euclid Ave., Cleveland 17, O. Yamaski, Lewinweber & Assoc., 103 W. 5 St., Royal Oak, Mich., archts. CD 1/22/54.

▲ **Six Industries Inc.,** 627 Railroad St., Springfield, O., CA Est. **$1,500,000.** 29-store SHOPPING CENTER and 1,200 car parking area, "Fairborn Plaza" along N. Broad St. FAIRBORN, O. Levine Realty Co., First National Bank Bldg., Springfield, O.

▲ **Norb Zimmerman,** 1118 S. Main St., Dayton, O. Owner Builds. **$1,250,000.** 65 ranch-style brick HOMES, near corner Wilmington Pike and Wagner Rd. KITTERING, O.

▲ **Ellington Miller Co.,** 25 E. Jackson Blvd., Chicago, Ill. CA **$2,540,000.** FREIGHT HANDLING BLDG., 525 W. 47 St., CHICAGO, ILL. Wabash Railway Co., J. C. Bousfield, ch. engr., Railway Exchange Bldg., St. Louis 1, Mo. Robert Nerem, Glenview, Ill., archt.

▲ **William H. & Nelson Cunliff Co.,** 3320 Lindell Blvd., St. Louis 3, Mo., CA Total est. **$2,000,000** constr. and equipment for bulk substation, incl. 2 large transformer and connecting lines known as Ridge Sub-station vicinity of 20th and State Sts., EAST ST. LOUIS, ILL. Union Electric Co., 315 N. 12th Blvd., St. Louis 1, Mo. CD 12/6.

▲ **Klefstad Engineering Co.,** 4444 W. Montrose Ave., Chicago, Ill. CA **$2,500,000.** design and construct 256,000 sq. ft. new BAKING PLANT, Northeast corner of Caldwell and Howard Sts., NILES, ILL. Salerno-Megowen Biscuit Co., 4500 W. Division St., Chicago, Ill. **(Correction**—contractor). CD 10/26, under CA.

Meredith Bros. Inc., 939 S. 2nd St., Milwaukee, Wis., CA **$300,000.** 2 FACTORY BUILDING addn., MILWAUKEE, WIS., A. O. Smith Corp., 3533 N. 27th St., Milwaukee, Wis. Bids 2/4, CD 1/23.

▲ **Forward Homes, Inc.,** 20043 15 Mile Rd., Clinton, Mich. Owner Builds. **$6,400,000.** 400 brick HOMES, Grossbeck and 15 Mile Rd., CLINTON, MICH.

▲ **Birmingham Development, Inc.,** Arthur A. Naehman, pres., 32321 Arlington St., Southfield, Mich. Owner Builds. **$3,500,000.** 2 story brick veneer Terrace APARTMENTS, on 32 acres, Lincoln west of Dequindre Rd., MADISON HEIGHTS. MICH.

Ferguson & Phillip, 13546 Auburn Ave., Detroit, Mich. CA **$897,232.** Madison and Glenwood Elementary SCHOOLS, WAYNE, MICH. Bd. Educ., Wayne Community Schools, 3714 S. Wayne Rd., Wayne, Mich. Bids Jan. 7. CD 12/17.

WEST OF MISSISSIPPI

HEAVY CONSTRUCTION—BA

† **Ark., Jacksonville**—HAZARD REMOVAL—BA About 3/5—U. S. Eng., P.O. Box 867, Little Rock, hazard removal, Little Rock Air Force Base, ENG-03-050-57-30. CD 8/23.

Tex., Abilene—BA 3/7—City, c/o A. Haneman, Jr., acting city mgr., Abilene, sewage treatment plant and lines. $500,000. Plans deposit $50. Extended date. Freese & Nichols, 407 Danciger Bldg., Fort Worth, consult. engrs. CD 2/13.

† **Tex., Abilene**—FIRE ALARM SYSTEM—BA 3/7—U. S. Eng., 100 West Vickery, Fort Worth, automatic fire-alarm system, Abilene Air Force Base, Inv. No. ENG-41-443-57-4. Extended date. CD 1/28.

Kan., Horton—BA 3/11—City, sewage treatment plant, rein.-con., secondary type sys. $160,000. Larkin & Assoc., 19 E. Gregory St., Kansas City, Mo., engrs. CD 5/9.

† **Missouri**—BA About 3/14—U. S. Eng., P.O. Box 867, Little Rock, Ark., relocation of State Hy. 86 from Hy. 39 to Barry-Stone Co. line, relocation 4.37 mi. hy., incl. rein.-con. substrtucture for steel bridge over Kings River, one 5x7 ft. and one 12x12 ft. rein.-con. box culverts and bridge substructure, Table Rock Reservoir, Barry Co., White River, CIVENG-03-050-57-51. CD 7/16/54.

† **N. D., Grand Forks**—HANGARS—BA 3/14—U. S. Eng., 1709 Jackson St., Omaha, Neb., hangars, nose-wing, Grand Forks Air Force Base, ENG-25-066-57-50. CD 8/22.

▲† **Texas**—BA About 3/19—U. S. Eng., Ellington Resident Office, Galveston District, CE, P.O. Box 5013, Ellington Air Force Base, rectification and/or imprvs. to Brays Bayou from Old Main to South Main and Stella Link Rd., to T & O R.R., Houston, Tex., CIVENG-41-243-57-52. $1,000,000-$3,000,000. CD 9/14.

† **Mont., Glasgow**—RECEIVER BLDG., etc.—BA 3/19—U. S. Eng., City-County Airport, Walla Walla, Wash., 1,060 sq. ft. receiver bldg., 1,060 sq. ft. transmitter bldg. and utilities for Navaid facilities at Air Force Base, ENG-45-164-57-25. CD 8/21.

† **Minnesota**—BA 3/20—U. S. Eng., 1217 U. S. Post Office & Customs House, St. Paul, Zone 1, apron replacement Leech Lake Dam, at Federal Dam, Cass Co., CIVENG-21-018-57-52. CD 2/8.

† **Montana**—SHOP FACILITIES—BA on or about 3/21—U. S. Eng., Riverdale, N. D., conversion of 3 existing bldgs. into permanent shop facilities at Fort Peck Dam and Reservoir, Fort Pack, CIVENG-32-015-57-39.

† **Wyoming**—PANELBOARD SECTION, etc.—BA 3/28—Bureau Reclamation, Dpt. Interior, Bldg. 53, Denver Federal Center, Denver, Colo., Sch. Item 1, one duplex panelboard section complete with controlling station supervisory control and telemetering equip. for Glendo Power plant for the supervisory control of Guernsey switchyard from Glendi Powerplant; Item 2, one controlled station supervisory control and telemetering cubicle and associated equip. for Guernsey switchyard for supervisory control of Guernsey switchyard from Glendo Powerplant for Controlling Guernsey switchyard from Glendo Power plant, Glendo Unit, Oregon Tran. Div. Missouri River Basin Proj. Spec. DS 4853. CD 9/10, under Earthwork, Waterways.

BUILDINGS—BA

Tex., Wichita Falls—CHURCH—BA 3/14— First Christian Church, Wichita Falls, 46,000 sq. ft. masonry church. $400,000. Harris & Killebrew, 1710 Dayton St., archts. CD 6/28.

▲ **Kan., Merriam**—SCHOOL—BA 3/15—Rural High School Dist. 6 of Johnson Co. (Shawnee Mission School Dist.), Dr. Howard D. McEachen, supt., Shawnee Mission High School Bldg., 7401 Johnson Dr., Merriam, Meadow Brook Junior High School. $1,250,000. Don Hollis, West 75 and U. S. 50, Overland Park, archt. CD 2/8.

BUILDINGS—SLC

Tex., Lake Jackson—CLUB—Riverside Country Club, c/o Dr. A. J. Stewart, pres., 2713 Ferndale Place, soon lets contract, 95,000 sq. ft. brick exterior, concrete frame club, $575,000. MacKie & Kamrath, 2713 Ferndale St., Houston, archts.

HEAVY CONSTRUCTION—LB & CA

▲† **Foley Bros., Inc.,** New York Bldg., St. Paul, Minn. CA **$1,732,238.** constr. A. C. & W. Facilities, 8 concrete block bldgs., 5 wood-frame bldgs., etc., 4 mi. from BAUDETTE, MINN. U. S. Eng., 1217 U. S. Post Office & Custom House, St. Paul, Minn. CD 1/29, under LB.

IOWA—State Hy. Comn., Ames, received no bids Feb. 5,

erosion control 1.238 mi. UN-38 (10); 0.64 mi. FN-38 (13); 0.557 mi. FN-275 (3); 0.568 mi. UN 275 (4), all foregoing Plymouth Co. CD 1/25.

▲† **J. A. Bass Co.,** Sexton Bldg., Minneapolis, Minn. LB **$1,722,400.** Schedule 1, shops and warehouses at Minot Air Force Base, ENG-25-066-57-35, MINOT, N. D. U. S. Eng., 1709 Jackson St., Omaha, Neb. Bids Feb. 12, CD 1/10;

Cunningham Bros., Beloit, Wis. LB **$1,344,850.** Schedule 1A. (Minot, N. D.).

† **Bureau Reclamation, Dpt. Interior,** Bldg. 53, Denver Federal Center, Denver, Colo., cancelled bids to have been opened Jan. 23 distr. transformers fuses lightning arresters for Watertown Sub-station Transmission Div., Missouri River Basin Proj., Inv. No. (D)A-68, 455-A, SOUTH DAKOTA. CD 1/9.

Jillie & Cannon Constr. Co., Lenora, Kan. **LB $258,796.** (8 bidders) 408.2 mi. telephone lines, Bonus Co., KANSAS AND COLORADO. Pioneer Telephone Assn., Ulysses, Kan. Bids Feb. 6. CD 1/3.

† **John Rohrer Contg. Co.,** 1913 W. 43 St., Kansas City, Kan. CA **$250,750.** runway, taxiway, apron repairs at Naval Air Station, Spec. 5609-56, OLATHE, KAN. Pub. Wks. Office, Ninth Naval Dist., Dpt. Navy, Great Lakes, Ill. Bids Feb. 7. CD 1/31.

Acme Constr. Co., 6000 N.W. 39 St., Oklahoma City, Okla., LB **$345,400.** Sect. B, water main extens., OKLAHOMA CITY, OKLA. City, City Hall, Oklahoma City, Okla. C. E. Bretz, 1916 N. Broadway, Oklahoma City, Okla., engr. CD 12/19/55.

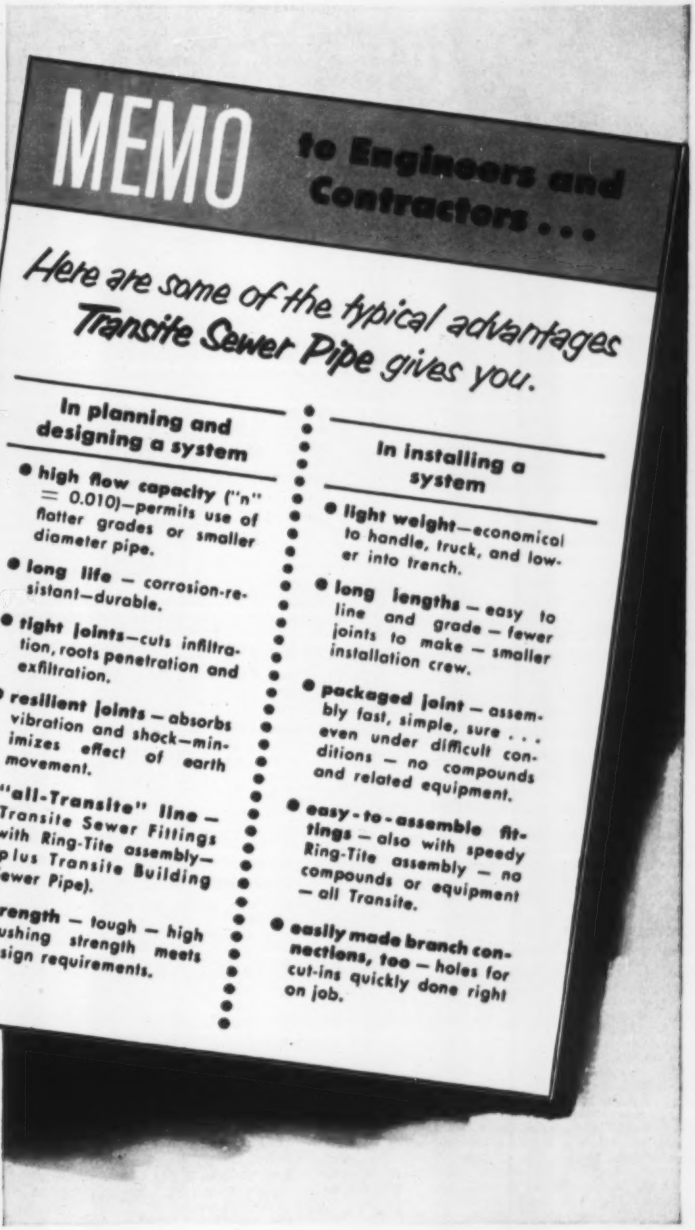
W. F. Young, Bethany, Okla., LB **$243,908.** Sect. A, water main extens. (Oklahoma City, Okla.)

▲ **TEXAS**—State Hy. Comn., Austin,

Tex.—**Williams Bros. Constr. Co. Inc.,** 3311 Montrose Blvd., Houston, Tex., LB **$547,725.** underpass, structures and Chamber Creek Structures 0.37 mi. Hy. US 75-Proj. I 569 (17) and F 568 (18), Navarro Co.;

Tex.—**The Jarbet Co. & R. B. Butler, Inc.,** P. O. Box 606, San Antonio, Tex., LB **$629,659.** widening structures, flex. base, b. conc., Big Creek bridge 7.653 mi. on Hy. SH, Proj. F 195 (7), Falls Co.; Bids Feb. 13. CD 1/28.

(Continued from page 82)



MEMO to Engineers and Contractors . . .

Here are some of the typical advantages Transite Sewer Pipe gives you.

In planning and designing a system

- **high flow capacity** ("n" = 0.010)—permits use of flatter grades or smaller diameter pipe.
- **long life** — corrosion-resistant—durable.
- **tight joints**—cuts infiltration, roots penetration and exfiltration.
- **resilient joints** — absorbs vibration and shock—minimizes effect of earth movement.
- **"all-Transite" line** — Transite Sewer Fittings with Ring-Tite assembly—(plus Transite Building Sewer Pipe).
- **strength** — tough — high crushing strength meets design requirements.

In installing a system

- **light weight**—economical to handle, truck, and lower into trench.
- **long lengths** — easy to line and grade — fewer joints to make — smaller installation crew.
- **packaged joint** — assembly fast, simple, sure . . . even under difficult conditions — no compounds and related equipment.
- **easy-to-assemble fittings** — also with speedy Ring-Tite assembly — no compounds or equipment — all Transite.
- **easily made branch connections, too** — holes for cut-ins quickly done right on job.

Select TRANSITE® for more economical, tighter sewerage systems . . .

Whether a new sewerage system is being planned or additions to an existing one are being made . . . engineer and contractor alike will find a combination of qualities in performance-proved Transite Sewer Pipe that will fit their individual needs. They will find this holds true whether the local conditions call for (a) tight joints to protect against root growth and infiltration of ground water or (b) the strength and flow characteristics that mean definite savings in the design stage, during trenching and installation, and in operation as well.

For further information about Transite Sewer Pipe, write for Booklet TR-165A, Johns-Manville, Box 14, New York 16, N.Y.

JOHNS-MANVILLE JM PRODUCTS

Johns-Manville TRANSITE SEWER PIPE

with the RING-TITE® Coupling

(Continued from page 80)

▲ **TEXAS**—State Hy. Comn., Austin,

Tex.—**Gilvin-Terrill, Inc.**, P. O. Box 2268, Amarillo, Tex., LB **$589,991**, flex. base 2 crushed surf. tr. 15.247 mi. Hy. SH 70, Proj. S 446 (1), Dickens Co.;

Tex.—**Killian-House Co.**, 4600 Broadway, San Antonio, Tex., LB **$889,726**. flex. base b. conc. 1.73 mi. Hy. Loop 13, Proj. U 1075 (9), Bexar Co.;

Tex.—**Texas Bitulithic Co.**, P.O. Box 10365, Dallas, Tex., LB **$722,690**. flex. base c. conc., b. conc. 1.243 mi. Hy Loop 217 Proj. I 1101 (5), Tarrant Co.;

Tex.—**Moore Bros. Constr. Co.**, P. O. Box 35, Lufkin, Tex., LB **$108,764**. grading, structures, base, surf. 6.639 mi. Hy. FM 1911 and 1248, Proj. S 1853 (2), Cherokee Co.;

Tex.—**Cooper & Woodruff**, 204 Mays Bldg., Amarillo, Tex., LB **$333,362**. seal coat 269.829 mi. Motley, Briscoe and Donley Counties, etc.;

Tex.—**Kidwell & Rogers Constr. Co.**, and **Flenniken Constr. Co.**, 4515 Prentice St., Dallas, Tex. LB **$457,238** grading, grade separation structures, c. conc. 0.946 mi. HY. US 75, Proj. I 832 (18), Dallas Co.;

Tex.—**Kenneth H. Lott**, P. O. Drawer 2309, Okmulgee, Okla., LB **$235,326**. flex. base, two crushed surf. tr. 7.507 mi. Hy. FM 1938, Proj. R 1978-1-1, Tarrant Co.;

Tex.—**Ben Sira & Co.**, P. O. Box 11645, Dallas, Tex., LB **$137,989**. grading, structures, base, surf. 7.238 mi. Hy. FM 2289, Proj. S 2122 (1), Madison Co.;

Tex.—**Strain Bros., Inc.**, P.O. Drawer 1631, San Angelo, Tex., LB **$379,509**, flex. base, two crushed surf. tr. 6.742 mi. Hy. US 67, Proj. F 600 (4), Runnels Co.;

Tex.—**C. C. Booth**, P.O. Box 508, Stephenville, Tex., LB **$101,752**. grading, structures, base, surf. 6.535 mi. Hy. FM 98, Proj. R. 702-3-7 and R. 1998-2-1, Foard Co.;

Tex.—**Heldenfels Bros.**, P.O. Box 1917, Corpus Christi, Tex., LB **$81,989**. grading, structures, base, surf. 6.594 mi. Hy. FM 1694, Proj. S 1974 (2), Nueces Co.;

Tex.—**E. E. Hood & Son**, P.O. Box 6097, San Antonio, Tex. LB **$467,122**, fnd. crs. flex. base, one crushed surf. tr., b. conc. 7.599 mi. Hy. US 87, Proj. F 440 (20), Wilson Co.;

Tex.—**George Kies & R. B. Bowden**, 1303 Robert E. Lee Rd., Austin, Tex., LB **$156,832**, seal coating 141.646 mi., McCuloch, Stephens, Mills Counties, etc.;

Tex.—**South Texas Constr. Co.**, P.O. Box 3536, Corpus Christi, Tex., LB **$131,000**. grading, structures, base, surf. 3.515 mi. Hy. FM 2234, Proj. R 2105-1-2, Fort Bend Co.;

Tex.—**W. R. Aldrich & Co.**, P.O. Box 1751, Baton Rouge, La., LB **$1,053,356**. grading, structures 5.795 mi. Hy. SH 73, Proj. I-1052 (39), Chambers Co.;

Tex.—**Austin Road Co. & Austin Asphalt Co.**, P.O. Box 1590, Dallas, Tex., LB **$1,162,545**. c. conc., flex. base, surf. 20.287 mi. Hy. US 175-Proj. F 136 (13), Kaufman Co. Bids Feb. 13. CD 1/28.

TEXAS—State Hy. Comn., Austin,

Cooper & Woodruff, Inc., 204 Mays Bldg., Amarillo, Tex., LB **$269,041**. grading, extending structures, flex. base, two and three crs. surf. tr. 15.957 mi. Hy. SH 86 and FM 2355, Proj. C 302-4-9 and R 1635-1-2, Swisher Co. Bids Feb. 13. CD 1/28.

▲ **TEXAS**—State Hy. Comn., Austin,

Tex.—**R. B. Butler Inc.**, P. O. Box 471, Bryan, Tex., LB **$420,184**. grading, structures 9.083 mi. Hy. US 67, Proj. I-431 (14), Hopkins Co.; LB **$121,413** grading, structures 6.539 mi., base, surf. Hy. FM 2346-Proj R 1223-3-1. Madison Co.;

Tex.—**Reynolds & Huff**, P. O. Box 88, Tyler Tex., LB **$121,023**. flex. base two crs. surf. tr. 6.262 mi. Hy. SH 22, Proj. F 1060 (3), Bosque Co.; LB **$283,503**. flex. base, one crs. surf. tr. 7.342 mi. Hy. SH 149, Proj. F 650 (13), Panola Co.;

Tex.—**Holland Page**, P. O. Box 1181, Austin, Tex., LB **$166,831**, grading, structures base, surf. 5013 mi. Hy. FM 517, Proj. 978-2-5, Galveston Co.; LB **$133,710**. grading structures, base, surf. 3.649 mi. Hy FM 525, Proj. S-2031 (1), Harris Co.;

Tex.—**Collins Constr. Co. of Texas**, P. O. Box 1192, Austin, Tex., LB **$1,185,219**. flex. base, b. conc. 10.393 mi. Hy. US 67 and 277 Proj. F 229 (5) and S 651 (3), Tom Green Co.;

Tex.—**Austin Road Co.**, P. O. Box 1490, Dallas, Tex., LB **$719,152**. grading, storm sewers, c. conc. 2.482 mi. Hy. US 90, A, Proj. C 27-(9&10-24&15), Harris Co.;

Tex.—**Concho Constr. Co.**, P. O. Box 6046, Dallas, Tex., LB **$313,133**. drainage structures, grade separation structures 0.109 mi. Hy. US 80, Proj. I-130 (10) Kaufman Co.;

Tex.—**Kenneth H. Lott**, P. O. Drawer 2309, Okmulgee, Okla., LB **$1,587,347**. c. conc., grade separation structures 2.598 mi. Hy. St 183-Proj. 634 (18) and F FG 634 (19) Dallas Co.;

Tex.—**Angelo Constr. Co.**, P. O. Drawer 1631, San Angelo, Tex. LB **$163,901**. seal coating 130.478 mi. King, Knox and Dickens Counties

Tex.—**J. Carroll Weaver, Contractor**, P. O. Box 996, Sinton, Tex. LB **$79,789**. grading, structures base, surf. 3.922 mi. Hy. FM 1360, Proj. R 1423-1-6, Refugio Co.;

Tex.—**Henry L. Stafford**, P. O. Box 1047, Lubbock, Tex. **$381,006**. flex. base, b. conc. 16.374 mi. Hy. US 285, Proj. F 607 (12) Reeves Co.;

Tex.—**Ned B. Hoffman**, 617 Ft. Worth Club Bldg. Fort Worth, Tex., LB **$407,960**, seal coating 469.225 mi. Bailey, Cochran and Lamb Counties, etc.;

Tex.—**Schwope Bros. & C. H. Allison Constr. Co.**, 6633 W. Commerce St., San Antonio, Tex., LB **$212,171**, seal coating 158.036 mi. Hys. US 77, 281, SH 9,359, 72, FM 99, 81, 624, 625, 799, 796, 1944, 1353, 1540, 1539, 70, 1074, 1931, 1717, Loop 227 and Spur 296, Live Oak, Nueces, Jim Wells Counties, etc.;

Tex.—**South Texas Constr. Co.**, P. O. Box 3536, Corpus Christi, Tex., LB **$405,159**, flex. base, b. conc. 6.713 mi. Hy. SH 35, Proj. F 1059 (4) Jackson Co.;

Tex.—**Fred Hall & Son**, P. O. Box 488, Valley Mills, Tex., LB **$1,696,632**, fdn. crs., flex. base b. conc. 7.891 mi. Hy. US. 81, Proj. I-614 (16) McLennan Co.;

Tex.—**Harry Newton Inc.**, Graham Land-off Bldg., Graham, Tex., LB **$1,211,416**, grading, structures, railroad grade separations 0.08 mi. Hy. SH 550, Proj. I. 1082 (11) Tarrant Co.;

Tex.—cancelled bids to have been opened Feb. 14, grading, structures, base, surf. 13.155 mi. Hy. FM 934, Proj. R 1661-3-1, Hill Co.; flex. base one and two crs., surf. tr. 8.09 mi. Hy. US 62, Proj. F 1104 (4) Hockley Co.; grading, structures base, surf. 10.463 mi. FM 1885 and FM 52, Proj. R 539-4-7, R 539-5-1, R 649-2-7, R 6492-6, Palo Pinto and Parker Counties. CD 1/24 and 1/28.

John E. Clayton, D. B. A. Clayton Builders, 6008 Community Dr., Houston, Tex., CA **$78,588**, est. $80,000. swimming pool, BELLAIRE, TEX. City, City Hall, Bellaire, Tex. CD 1/18.

Layne-Texas Co., Box 11665, Dallas, Tex., LB **$104,432**, est. $132,000. well fields, BRYAN, TEX. City, c/o Noah Dansby, secy., Bryan, Tex. Freese, & Nichols, 407 Danciger Bldg., Fort Worth, Tex., engrs. CD 1/18.

City, Corpus Christi, rejected bids Jan. 23, Ayers Park Swimming Pool and Bathhouse, CORPUS CHRISTI, TEX. LB **$86,455**.

Dresser-Ideco Co., 857 Michigan Ave., Columbus O., LB **$365,500**, HANGAR, DALLAS, TEX. City, Airport Dpt., City Hall, Dallas, Tex. Delta Air Lines, lessee. Bids Feb. 4. CD 1/21.

Ray F. Smith, 2710 El Tivolo St., Dallas, Tex., LB **$47,285**. 16 in. water main, Kiest Blvd., DALLAS, TEX. City, City Hall, Dallas, Tex. Bids Feb. 4. J. G. Rollins, Pub. Wks. Engr. CD 1/31/56.

J. C. Oliver, Box 373, Stephenville, Tex., LB **$78,995**, est. $75,000 (10 bidders) sewage disposal plant unit, HALLETTSVILLE, TEX. City, City Hall, Hallettsville, Tex. Bids Feb. 4. CD 2/1.

† **Industrial Refrigeration & Air Conditioning Co.**, P. O. Box 978, San Antonio, Tex., CA **$444,987**, providing air conditioning for major part of existing Hospital Bldg. No. 100, Brooke Army Medical Center, ENG-41-243-57-16, SAN ANTONIO, TEX. U. S. Eng., P. O. Box 1229, Galveston, Tex. Bids Jan. 28. CD 12/13.

▲† **Brown Boveri Corp.**, 19 Rector St., New York, N. Y. LB **$1,398,200**, est. $2,000,000 (6 bidders) furnish two 40,000 kw. generators for second power plant at Fort Peck Dam, ENG-32-015-28, MONTANA. U. S. Eng., Riverdale, N. D. Bids Feb. 5. CD 1/21.

† **The Howard P. Foley Co.**, P.O. Box 718, Colorado Springs, Colo., CA **$117,783**. completion of well pumping stations, Air Force Academy (IFB 05-613-57-13), COLORADO SPRINGS, COLO. Dpt. Air Force, Air Force Academy Constr. Agency, P.O. Box 1670, Colorado Springs, Colo. Bids Jan. 8. CD 12/4.

BUILDINGS—LB & CA

J. E. Pyle & Co., 207 W. 2 St., Little Rock, Ark., LB **$403,029**. 63-bed HOSPITAL, FORREST CITY, ARK. St. Francis Co., Court House, Forrest City, Ark. Awarded Feb. 9. CD 1/27/54.

▲ **Elbel Constr. Co.**, 2 W. Ninth St., Kansas City, Mo. LB **$1,590,000**, est. $1,623,400. construct and finance 100 HOUSING units (Capehart), FORT LEAVENWORTH, KAN. U. S. Eng., 1800 Federal Office Bldg., Kansas City 6, Mo. Bids Feb. 14. CD 1/17.

▲ **G. E. Bass & Co.**, 2715 N. State St., Jackson, Miss., LB **$3,322,033**, est. $3,000,000. 200-bed Baptist GENERAL HOSPITAL, OKLAHOMA CITY, OKLA. Oklahoma Baptist General Convention, 1141 N. Robinson St., Oklahoma City, Okla. Bids Feb. 14. CD 1/14.

▲ **Claude E. Mathis**, Box 1727, Amarillo, Tex., CA **$1,073,000**, James W. Fannin, Jr. HIGH SCHOOL, AMARILLO, TEX. Amarillo Ind. School Dist., Amarillo, Tex. CD 1/7.

J. S. Williams & Co., 602 Adolphus Tower, Dallas, Tex., OWNER BUILDS. **$95,000**. WAREHOUSE, DALLAS, TEX. CD 2/11.

Ray Ward & Son, 1800 E. Missouri St., El Paso, Tex., CA **$717,777**, Summit JUNIOR HIGH SCHOOL, EL PASO, TEX. El Paso Independent School Dist., El Paso, Tex. CD 2/7, under LB.

W. B. Abbott, Jr., Box 585, Lubbock, Tex., LB **$122,000**, est. $125,000, masonry type SERVICE-STATION; alterations, LUBBOCK, TEX. Sears, Roebuck & Co., 5334 Ross St., Dallas, Tex. George L. Dahl, 2101 N. St. Paul St., Dallas, Tex., archt. Bids Jan. 29. CD 1/23.

▲ **Ramey Constr. Co.**, Box 64, Amarillo, Tex., CA **$1,090,245**, general contract. Robert E. Lee **JUNIOR HIGH** SCHOOL, PAMPA, TEX. Pampa Ind. School Dist., Pampa, Tex. CD 1/15.

▲ **Aldrich & Thrailkill Constr. Co.**, 716 East Commerce St., San Antonio, Tex., LB **$1,040,000**, est. $500,000. Travis Park Methodist CHURCH constr., SAN ANTONIO, TEX. Travis Park Methodist Church Congregation, Travis and Navarro Sts., San Antonio, Tex. CD 1/17.

FAR WEST

HEAVY CONSTRUCTION—BA

Calif., Los Angeles—BA 3/8—Bd. Supervs. Los Angeles Co., 501 Hall of Records, Atlin St. Sewers, C. I. In35, Duarte, $122,450. Plans deposit $5. CD 11/31/51.

Calif., Los Angeles—BA 3/8—County Flood Control Dist., 2250 Alcazar St., Storm Drain Bond Issue Proj. 191, 10,904 lin. ft. 21- to 78-in., rein.-conc. pipe, Pasadena, H. E. Hedger, c/o owner, engr. CD 11/7/52.

† **Wash., Fort Lewis**—COMMUNICATIONS CONDUIT—BA 3/20—U. S. Eng., 4735 E. Marginal Way, Seattle, Zone 4, constructing 10,000 ft. communication conduit, with manholes, ENG-45-108-57-106. CD 8/30, under Public Buildings.

† **Washington**—BA 4/4—Bureau Reclamation, Dpt. Interior, Denver Federal Center, Denver 2, Colo., design, construction, installation and tests of spillway white or colored floodlighting system for the spillway at Grand Coulee Dam, Coulee Dam, Spec. DC 4856; adv. ENR 2/28. CD 9/26/51.

BUILDINGS—BA

Ore., Springfield—SCHOOL—BA 3/11—Springfield School Dist., Springfield, frame with brick veneer Junior High School. Plans deposit $25. Wilmsen & Endicott, 863 13 Ave., Eugene, archts. Bids Feb. 11, rejected. CD 1/29.

▲ **Calif., Menlo Park**—OFFICE, etc.—BA 3/15—Stanford Research Institute, Stanford Village, Menlo Park, 120,000 sq. ft., brick, structural steel office and laboratory bldgs., 35-acre site, $4,500,000. J. E. Stanton & Wm. F. Stockwell, 627 Carondelet St., Los Angeles, Calif., archts. CD 11/22.

Calif., Two Rock Ranch—HOUSING—BA 4/1—Procurement Officer, Two Rock Ranch, construct and finance, 23-units of Capehart Housing. $412,500. CD 2/8, under LB.

Calif., Benicia — HOUSING — BA 5/13 — Procurement Officer, Benicia Arsenal, Benicia, construct and finance, 12-units of Capehart Housing, Benicia Arsenal. $216,000.

▲ **Ariz., Yuma** — HOUSING — BA 6/5 — Procurement Officer, Yuma Test Station, Yuma, construct and finance 209-units of Capehart Housing, Yuma Test Station, $3,657,500. CD 8/29.

▲ **Calif., Camp Irwin**—HOUSING—BA 6/5—Procurement Officer, Camp Irwin, construct and finance 173 units of Capehart Housing. $3,027,500. CD 9/5, under LB.

Calif., Los Angeles—HOUSING—BA 6/12—Procurment Officer, Los Angeles Defense Area, Los Angeles, construct and finance, 44-units of Capehart Housing, Los Angeles Defense Area (AA). $770,000. CD 11/25/53, under Public Buildings.

▲ **Calif., Fort Ord**—HOUSING—BA 7/18—Procurement Officer, Fort Ord, construct and finance, 900-units of Capehart Housing. $15,750,000.

▲ **Utah, Tooele** — HOUSING — BA 9/6 — Procurement Officer, Dugway Proving Grounds, Tooele, construct and finance, 100-units of Capehart Housing, Dugway Proving Grounds. $1,800,000.

Calif., San Francisco—HOUSING—BA 12/6—Procurement Officer, San Francisco Defense Area, San Francisco, construct and finance, 52-units of Capehart Housing, San Francisco Defense Area (AA) $938,000. CD 6/11.

▲ **Wash., Fort Lewis**—HOUSING—BA 12/9—Procurement Officer, Fort Lewis, construct and finance, 375-units of Capehart Housing. $6,562,500. CD 9/1/54.

▲ **Wash., Spokane**—HOUSING—BA 12/9—Procurement Officer, Fairchild Air Force Base, Spokane, construct and finance, 64-units of Capehart Housing, Fairchild Air Force Base (AA). $1,120,000.

HEAVY CONSTRUCTION—LB & CA

Pelton Water Wheel Co., 19 and Holcomb Sts., San Francisco, Calif., LB **$143,694**. hydraulic turbines for hydro-electric generating station, UTAH, Gar Kane Power Assoc., 56 E. Center St., Richfield, Utah. Bids Jan. 26. CD 7/13/55;
Elliot Co., 900 N. Fourth St., Jeannette, Pa., LB **$61,136**, water wheel driven generators (Utah);
R. E. Uptegraff Co., 299 N. Lexington Ave., Scottdale, Pa., LB **$37,372** 4 power transformers (Utah).

ARIZONA—State Hy. Dpt., 17 Ave. and Jackson St., Phoenix;

Ariz.—**Isbell Constr. Co.**, Box 1710, Phoenix, Ariz., LB **$103,159**. resurf. 3 mi. existing roadway, bit. plant mix, Shea Blvd., Maricopa Co.;

Ariz.—**San Xavier Rock & Sand Co.**, Box 1031, Tucson, Ariz., LB **$257,762**. rebuilding, surf. 1¾ mi. existing alignment, 3-span concrete girder bridge, Valencia Rd., Tucson, Pima Co.;

Ariz.—**Tanner Bros. Constr. Co.**, 731 N. 19 Ave., Phoenix, Ariz., LB **$166,672**, wid'n., resurf. 1.2 mi. present roadway, S. Central Ave., Phoenix, Maricopsa Co.;

Ariz.—**Martin Constr. Co.**, Box 934, Tuscon, Ariz., LB **$229,827**, rebuilding, seal coating 2.9 mi. State Rte. 83, Sonoita-Mountain View Hy., Santa Cruz Co.;

Ariz.—**Arizona Sand & Rock Co.**, Box 959, Phoenix, Ariz., LB **$95,965**. rebuilding, seal coating 1 mi. State Rte. 95, Yuma-San Luis Hy., Yuma Co. CD 6/29.

L. B. Read, 2607 S. W. Sunset Blvd., Portland, Ore., LB **$76,931**, (15 bidders), 1,250,000 gal. rein.-con. surface reservoir and booster pumping station with piping and pumping equipment, VANCOUVER, WASH. City, City Hall, Vancouver, Wash. Bids 2/11. CD 1/31.

▲† **Shea Co., Henry J. Kaiser, Morrison-Knudsen Co., Macco Corp., and Raymond Concrete Pile Co.**, 2801 W. Mission Rd., Alhambra, Calif., CA **$36,644,557** 11 mi. Clear Creek Tunnel, Trinity River Div., Central Valley Proj., Spec. DC 4803, CALIFORNIA. Bureau Reclamation, Dpt. Interior, Weaverville, Calif. Bids Dec. 20. CD 12/26, under LB.

† **M. W. Brown**, P. O. Box 827, Reading, Calif., CA **$792,423** earthwork, structures, surf. county road imprvs. Trinity River bridge to Trinity Dam. Trinity River Div., Central Valley Proj., Spec. DC 4804, CALIFORNIA. Bureau Reclamation Dpt. Interior, Weaverville, Calif. Bids Jan. 24, awarded Feb. 11. CD 1/31, under LB.

▲ **CALIFORNIA**—State Dpt. Public Wks., 1120 N St., Sacramento,

Thompson Constr. Co., 6330 Hindry Ave., Los Angeles, CA **$2,658,816.** grading, paving 1.5 mi., 6-lane divided freeway in Los Angeles on Glendale Freewey, between Los Angeles River and Eagle Rock Blvd., and 5 rein.-con. retaining walls, Los Angeles Co. CD 2/5.

Eric C. Peterson, 2315 Curry St., Long Beach, Calif., LB **$103,162** (8 bidders) imprv. 153 St., C.I. 1665, Lawndale, LOS ANGELES, CALIF. Bd. Supervs. Los Angeles Co., 501 Hall of Records, Los Angeles, Calif. Bids Feb. 8. CD 1/17.

N. P. VanValkenburg Co., 1627 N. Chico Ave., El Monte, Calif., CA **$538,000.** WW imprvs. in South Antelope Valley, C.I. 1798-M, LOS ANGELES, CALIF. Bd. Supervs. Los Angeles Co., Hall of Records, Los Angeles, Calif. Bids Jan. 25, awarded Feb. 8. CD 2/7, under LB.

John H. McCosker, 1501 E. Shore Highway, Berkeley, Calif., LB **$179,499** (9 bidders) rehabilitation 4 railroad barricated sidings, remove 4 existing barricades and constr. new ones, Naval Magazine, NBy 7038, Spec. 7038/56, PORT CHICAGO, CALIF. Dist. P. Wks. Office, Twelfth Naval Dist., San Bruno, Calif. CD 1/23.

Stevenson-Pacific Co., 1135 Chestnut St., Redwood City, Calif., CA **$119,127.** emergency water supply system, at San Francisco International Airport, SAN FRANCISCO, CALIF. United Air Lines, c/o Skidmore, Owings, & Merrill, archts., 1 Montgomery St., San Francisco, Calif. CD 8/22/55.

R.C.R. Corp., 2240 Parkway Dr., El Monte, Calif., LB **$173,795** (6 bidders) 3 m.g. Gunited Reservoir R-1, WALNUT, CALIF. Walnut Valley Water Dist., 271 S. Brea Canyon Rd., Walnut, Calif. Bids Feb. 7. CD 1/17.

BUILDINGS—LB & CA

Saunders Constr. Co., 706 21 St., Ogden, Utah, CA **$439,475.** Hillcrest Elementary SCHOOL, 7 St. and Van Buren Ave., OGDEN, UTAH. Ogden School Dist., 2351 Grant Ave., Ogden, Utah. Bids Feb. 7. CD 123.

H. F. Antrim Constr. Co., 1003 E. Indiana School Rd., Phoenix, Ariz., LB **$360,700.** SCHOOL, PHOENIX, ARIZ. Osborn School District, 20 E. Osborn Rd., Phoenix, Ariz. Edward L. Varney, 221 E. Camelback Rd., Phoenix, Ariz., archt.

▲ **John P. Hopkins Co., Inc.**, 4146 Boulevard Place S. E., Mercer Island, Wash., CA **$1,082,770.** construct and finance, 66-units of Capehart HOUSING, FORT LAWTON, WASH. U. S. Eng., 4735 E. Marginal Way, Seattle 4, Wash. Bids Dec. 11. CD 12/19, under LB.

Sterner Constr. Co., 13845 S.E. Rhine St., Portland, Ore., LB **$374,572** (8 bidders) Elementary SCHOOL, PORTLAND, ORE. Gilbert School Dist., 12500 S.E. Ramona St., Portland, Ore. Warren Weber, 610 Fenton Bldg., Portland, Ore., archt.

▲ **Haas & Haynie Constr. Co.**, 575 Pine St., San Francisco, Calif., CA **$2,000,000,** MANUFACTURING PLANT, ANTIOCH, CALIF. Crown-Zellerbach Corp., Airport Way, Seattle, Wash. CD 1/10.

▲ **Hayward Union High School Dist.**, 22300 Foothill Blvd., Hayward, Calif., rejected bids, Tennyson HIGH SCHOOL, HAYWARD, CALIF. LB **$2,971,000.** CD 1/24, under LB.

▲ **M. J. Brock**, 2894 Rowena St., Los Angeles, Calif., CA **$1,000,000.** Agricultural Research Laboratory addns., alterations, MODESTO, CALIF. Shell Development Co., 4560 Horton St., Emeryville, Calif. Austin, Field & Fry, 2311 W. 3rd St., Los Angeles, Calif., archts.

Bill A. Smith & Co., 5818 N. Venice Blvd., Los Angeles 19, Calif., LB **$516,146** (6 bidders) 1 story, 26,300 sq. ft. frame, stucco, La Mirada SCHOOL NORWALK, CALIF. Norwalk City School Dist., 12152 E. Walnut St., Norwalk, Calif. Bids Feb. 8. CD 1/23.

▲ **C F. Braun & Co.**, 1100 South Fremont St., Alhambra, Calif., CA Est. **$4,000,000.** design and construct anti-knock compounds PLANT, PITTSBURG, CALIF. Ethyl Corp., 100 Park Ave., New York, N. Y.;
Utah Constr. Co., 100 Bush St., San Francisco, Calif., CA site preparation (Pittsburg, Calif.).

Strona Bros. & Earle Casler, 871 E. Franklin Ave., Pomona, Calif., LB **$412,626** (7 bidders) West Valley Blvd. Elementary SCHOOL, POMONA, CALIF. Pomona Unified School Dist., 605 N. Park Ave., Pomona, Calif. Bids Feb. 7. CD 1/25.

▲ **International Business Machine Co.**, 99 Notre Dame St., San Jose, Calif., rejected bids Jan. 24, Phase 2, IBM PLANT, SAN JOSE, CALIF. Est. **$8,750,000.** CD 1/18.

Younger Constr. Co., 405 Sansome St., San Francisco, Calif., CA **$500,000,** 1 story, 15,000 sq. ft. concrete, structural steel SUPERMARKET, 3rd and Grand Sts., SAN RAFAEL, CALIF. Purity Stores, Inc., Kearny at Francisco St., San Francisco, Calif. Harold M. Engle, 1539 B 4th St., San Rafael, Calif., consult. engr.

Kemp Brothers, 8750 Mettler St., Los Angeles 3, Calif., LB **$568,800** (8 bidders) 2 story 86x194 ft., concrete stone veneer, STUDENT UNION and CAMPUS INN, WHITTIER, CALIF. Whittier College, Whittier, Calif. Bids Feb. 6. CD 7/19.

CANADA

HEAVY CONSTRUCTION—BA

ONTARIO—BA 3/6—Dpt. Hys., Parliament Bldgs., Toronto,

Stayner—Contract 56-235, hot mix paving 7.6 mi. gran. base, Hy. 26 from Stayner easterly $75,000. CD 12/8/50.

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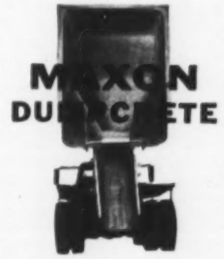

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Ont., Bronte—BA 3/6—Dpt. P. Wks., Hunter Bldg., Ottawa, Ont., dredging, $77,000.

BUILDINGS—SLC

Que., Montreal—PLANT—Northern Electric Co., Ltd., 1600 Notre Dame St. W., soon lets contract further addn. to plant, 72,000 sq. ft. steel structure, brick walls, rein.-con. fdn. $550,000. Meadowcroft & McKay, 4115 Sherbrooke St. W., archts. Murray MacDonald, c/o owner, engr. CD 3/1.

HEAVY CONSTRUCTION—LB & CA

▲ **Dominion Underground Constr. Co.**, 4763 Redford St., Detroit, Mich., U.S.A., LB **$4,247,000** (7 bidders) Contract D17-56, 4,612 ft. sanitary trunk sewers, Contract C 18-56, 6,727 ft. sanitary trunk sewers in Rhodes Ave. and Coxwell Aves., TORONTO, ONT. Municipality of Metropolitan Toronto, 67 Adelaide St., E., Toronto, Ont. Bids Feb. 4. CD 12/17; **Rayner-Atlas Ltd.**, 46 Eglinton Ave. E., Toronto, Ont., LB **$2,194,000** (6 bidders) open cut of twin pipe sewers 72 ft. diam. or rectangular section on Rhodes Ave. easement and sewage pumping station site, Coxwell Ave. sanitary trunk sewer (Toronto, Ont).

▲ **Atlas-Winston Ltd.**, 4781 St. Catherine St. W., Montreal, Que., LB **$1,100,175** (6 bidders) substructure, Pier 14 to 29, Honore Mercier Bridge exten., Lachine section of St. Lawrence Seaway, QUEBEC, St. Lawrence Seaway Auth No. 2. Temporary Bldg., Ottawa, Ont. A. G. Murphy, c/o owner, 685 Cathcart St., Montreal, Que., engr.

▲ **Dominion Bridge Co. Ltd.**, Lachine, Que., LB **$4,873,780** (3 bidders) superstructure, south of Pier 29, Honore Mercier Bridge extension, Lachine Section of St. Lawrence Seaway, QUEBEC. St. Lawrence Seaway Auth. No. 2 Temporary Bldg., Ottawa, Ont. A. G. Murphy, c/o owner, 685 Cathcart St., Montreal, Que., ch. engr.

BUILDINGS—LB & CA

Pentagon Constr. Co. Ltd., 5005 Namur St., Montreal, Que., CA **$200,000** (5 bidders) substructure for sewage treatment plant, asbestos mill exten. ASBESTOS, QUE. Canadian Johns-Mansville Co., Ltd., 310 Victoria Ave., Montreal, Que. Awarded Feb. 11. CD 9/4.

Girard & Frere, 6200 40 Ave., Rosemont, Que. Owner Builds. **$528,000**. HOUSING, incl. 12 triplexes and 16 duplexes, each 2 story, bsmnt., wood and brick, concrete fdns., St. Zotigue St. E., ROSEMONT, QUE.

▲ **Soulanges Kingdom**, 1104 St. Zotigue St. E., Montreal, Que. Owner Builds. **$2,500,000**. 250-unit HOUSING program, near Coteau Landing, ST. ZOTIQUE, QUE.

ALASKA

† **Alaska**—EXHAUST SYSTEM—BA 3/11—Procurement Officer, Eielson Air Force Base, carbon-monoxide exhaust system to serve 4 stations Eielson Air Force Base, Inv. 57-84. CD 8/22/55.

† **Alaska**—DISTRIBUTION SYSTEM LINE, etc.—BA 3/26—U. S. Eng., **Alaska** Dist., 4735 E. Marginal Way, Seattle 4, Wash., 7 mi. 7200-volt primary overhead electric distr. sys. line from Fort Richardson to Site Summit guided-missile installation, Elmendorf Air Force Base, Inv. 57-61. CD 8/22/55.

HEAVY CONSTRUCTION—LB & CA

▲† **Raber & Kief and B-E-C-K Constructors**, 420 Queen Anne Ave., Seattle, Wash., CA **$4,448,000**. 188x260 ft. steel frame hangar and shop bldg., rein.-con. VHF-UHF receiver and emergency power bldg., 1 story operations bldg. with control tower, 41x170 ft., etc., Naval Station NBy-2423, ADAK, ALASKA. P. Wks. Officer, 17th Naval Dist., Kodiak, Alaska. Bids Jan. 22. CD 1/28, under LB.

FOREIGN

BUILDINGS—BA

Iraq, Baghdad—HOSPITAL—BA 6/1—Development Board & Ministry of Development, (Directorate-General of Legal Affairs & Contracts), Baghdad, Contract S1/1957, piled foundation, concrete frame, 550-bed New Karkh Hospital, with plant house, laundry, ambulance station, sewage disposal plant and river wall exten. Plans deposit Iraqui Dinars Twenty-five (ID. 25), adv ENR 2/28. CD 1/25.

PROPOSED PROJECTS

WATER SUPPLY

Conn., Meriden—City, 2 water storage tanks for water sys. **$350,000**.

Conn., Stevenson—Conn. Light & Power Co., Selden St., Berlin, addnl. capacity of spillway at Stevenson Dam, Lake Zoar, **$520,000**.

Mich., Rochester—Village, Robert A. Slone, mgr., water sys. incl. c.i. Mains and elevated steel water storage tank (one million gals.) **$100,000**.

N. M., Las Cruces—City, expansion, imprv. WW sys. **$300,000**.

O., Dover—City, City Hall, foundation for Jackson Hill waterworks standpipe and 8 in water main leading to standpipe. Approx. **$100,000**.

Tex., Harlingen—City, City Hall, water storage, **$75,000**; WW pumping, **$75,000**; water supply, **$90,000**; water lines, system imprvs., **$390,000**. Sigler, Clark & Assocs., Box 428, Weslaco, consult. engrs. CD 7/10/56.

Tex., Joshua—City, T. R. Struber, mayor, water system imprvs., **$150,000**, Reaves & Gregory, 3332 W. 7th St., Fort Worth, consult engrs.

Tex., Waco—City, c/o Elmer Roberts, comptroller, constr. 2 story, 77 ft. x 32 ft. steel frame and masonry chemical bldg. for Water Dept. **$125,000**. Bids soon. Joe J. Rady and Freese & Nichols, 407 Danciger Bldg., Fort Worth, consult. engrs.

▲ **Que., Laval West**—Town, water supply and sewerage sys. **$4,000,000**.

SEWERS, WASTE DISPOSAL

Ariz., Sierra Vista—Town, sewerage collection system and treatment plant. **$366,545**. To start in January.

Conn., Westport—Towns of Weston, Westport, and Wilton, c/o Bd. Selectmen, Westport, incinerator for Towns of Weston, Westport, and Wilton, **$100,000**.

Conn., Westport—Town, sewage disposal plant, Saxton Lane. **$500,000**. Keis & Holroyd, 257 Broadway, Troy, N. Y., consult. engrs. CD 6/13.

▲ **Mich., Gibraltar**—Village of Gilbraltar Village Council, bond election Mar. 18, sewerage sys. **$1,475,000**.

Mich., Rochester—Village, Robert A. Slone, mgr., sewage disposal plant, treatment facilities. **$200,000**.

Neb., Hastings—City sewage plant imprvs., **$544,850**, CD 9/1/54.

Neb., Omaha—City, sewage plant addn., imprvs. doubling the capacity, at 61st and Harrison Sts. **$1,600,000**, Henningson, Durham & Richardson, 2962 Harney St., consult. engrs., CD 12/6.

N. M., Las Cruces—City, expansion, imprv. sanitary sewerage sys. **$250,000**.

N. Y., Amherst—Town, Village Hall, flood control relief sewer, by-pass sewer from Getzville Rd. and Sheridan Dr. to carry off excess storm water. Line would run either to Ellicott Creek or to town's disposal plant on N. Forest Rd. **$700,000-$875,000**.

▲ **O., Ashland**—City, City Hall, engineers have been authorized to draw up detailed plans for sewage plant renovation and expansion. **$1,020,000**. Form of financing still to be decided upon. Uhlman Assoc., 4954 N. High St. Columbus, consult. engrs.

▲ **O., Canton**—City, City Hall, storm sewer imprvs. incl. North Market Area A, **$335,000**; North Market Area B, **$230,000**; Fairmount Park N.E., **$300,000**; McKinley Airport Allotment (east ½) **$50,000**; Westlawn Cemetery, **$70,000**; 6 St. N.E.-6 St. N.W., **$50,000**; County Farm area to east and west, **$100,000**; 17 St. S.W.-Maryland Ave. S.W., **$150,000**; Mill Rd.-Eversole Ave. S.W., **$20,000**; Green Acres N.W., **$25,000**; Alden Ave. S.W., **$15,000**; 4 St. S.E.-8 St. S.E., **$40,000**; Georgetown Rd. N.E., **$25,000**; misc. locations **$60,000**. L. L. Luke, city engr. CD 12/2/52.

O., Fairport Harbor—Village, Village Hall, interceptor sewers to tie in with sewage plant now under construction. **$118,000**.

O., Parma—City, Fred Newcomb, Service dir., City Hall, 6611 Ridge Rd., Zone 29, storm and sanitary sewers in Lucerne Ave., Heartstone Dr. area. **$138,000**. Bert Chabek of Verne Clarke Eng. Co., 4050 Brookpark Rd., Cleveland, Zone 29, consult. engr. Bids this spring. CD 11/9.

O., Rocky River—City of Rocky River, City Hall, 21012 Hilliard Rd., Cleveland, Zone 16, Linden-Grannis Sewer Dist. 1, area bounded by Center Ridge, Wooster and Lorain Rds. and W. 210 Sts. **$160,000**.

Tenn., Chattanooga—City, constr. second phase East Ridge sewage disposal sys. **$650,000**. Bid March or April.

Tenn., Collierville — City, constr. and maintenance of sewer and water system, incl. new water tower tank. **$300,000**.

Tex., Joshua—City, T. R. Struber, mayor, sanitary sewerage system imprvs., **$103,000**, Reaves & Gregory, 3332 W. 7th St., Fort Worth, consult. engrs.

Utah, Spanish Fork—City, bond election Mar 5, sewerage disposal plant. **$350,000**. CD 5/17.

Wash., Anacortes—City, City Hall, defeated **$225,000** bonds Feb. 5, storm sewers. CD 12/28.

Alaska, Fairbanks—City, City Hall, sewerage sys. between 18 and 23 Aves. **$400,000**. Bids this year. CD 2/3/54.

Ont., Woodstock—City Council, Mayor Charles M. Tatham, 30 to 36-in. sanitary sewers for new industrial area, **$100,000**. W. M. Veitch, RR 4, London, consult. engr.

BRIDGES

▲ **Calif., Yuba City**—Yuba and Sutter Counties, c/o Yuba County Rd. Comr., Court House, Yuba City, 5 St. Bridge, prestressed concrete, across Feather River to replace one destroyed by flood in 1955. **$1,654,000**. Bids in March.

O., Parma—City, Fred Newcomb, Service Dir., City Hall, 6611 Ridge Rd., Zone 29, culverting of Woodway Creek. **$500,000**. Bids this spring. Burt Chabek of Verne Clarke Eng. Co., 4050 Brookpark Rd., Cleveland, consult. engr.

Tex., Houston—City, City Hall, widening Waugh St. Bridge over Buffalo Drive. **$150,000**. Francis J. Niven & J. G. McKenzie, 3908 Main St., consult. engrs. CD 12/1/52.

STREETS AND ROADS

▲ **CONNECTICUT**—State Hy. Dpt., 165 Capitol Ave., Hartford,

New Haven—Oak St. Connector between Conn. Turnpike and New Haven Center, **$10,000,000**. D. B. Steinman, 117 Liberty St., New York, N. Y., consult. engr. CD 7/17.

▲ **MASSACHUSETTS**—Commonwealth of Mass., Dpt. P. Wks., 100 Nashua St., Boston,

Cummington—relocation Rte. 9 from Windsor line thru Rte. 9, **$2,000,000**, Duffill Assoc., Inc., 655 Beacon St., Boston, consult. engrs. Bids in May.

Lowell—hy. relocation of Middlesex St., Thorndike Co. underpass (elimination railroad grade crossing), **$4,000,000**. Bids in March.

N. M., Las Cruces—City, opening, imprv. some city streets. **$250,000**.

▲ **NEW YORK**—Bureau Contracts & Accounts, The Gov. Alfred E. Smith State Office Bldg., Albany,

Essex Co.—constr. 24 ft. c. conc. for approx. 0.7 mi. to improve the alignment and sight distance at Casa Turn, Rte. 9 town of North Hudson, involving the relocation of channel of Schroon River and constr. of new bridge over Black Brook, FAI **$300,000**.

reconstr. portion of Rte. 9 with c. conc. 24 ft. wide, from a point on Rte. 9 about 0.8 mi. south of Rte. 73 and Rte. 9 intersection and ending on Rte. 9, about 1.6 mi. north of that intersection, approx. 2.4 mi., incl. channelized intersection at jct. of Rtes. 9 and 73, section of long grade on Rte. 9 north of the intersection will have pavement increased to three lanes, FAI, **$650,000**.

reconstr., strengthening, widening and realignment where necessary of portion of Rte. 9, approx. 0.1 mi. north of Elizabethtown Village Line then continue north on Rte. 9, cross County Hy. 40 pass through the village of Lewis and end approx. 0.4 mi. south of Halehill Brook, approx. 8.8 mi., FAI, **$1,500,000**.

Rockland Co.—reconstr. approx. 1.5 mi. Rte. 17 in village of Hillburn, 4-lane divided hy. on existing location, FAI, **$265,000**,

Tompkins Co.—reconstr. Rte. 13 on new location north of Ithaca, approx. 7.7 mi., FAI, **$1,500,000**.

O., Cleveland—Comrs. Cuyahoga Co., Court House, Zone 13, widening Ridgewood Dr. between York and Ridge Rds. from 2 to 4 lines, Parma. **$365,000**, 11/10/55.

RHODE ISLAND—State of R. I. & Prov. Plants. Div. Purchase, State House, **Providence**,

Johnston and Smithfield — reconstr. Greenville Ave. **$320,000**. Construction in 1957.

Tex., Decatur—Wise Co., c/o Courthouse, road maintenance, grading, repairing, some bridge work in 1957. **$141,925**.

Tex., Houston—City, City Hall, street paving and drainage, 1-mile, 2-lane 24-ft. wide concrete paving, White Oak Dr. and Feagan St., 42 in. precast concrete storm sewers. $250,000. Lockwood, Andrews & Newman, 1010 Waugh St., consult. engrs. CD 2/2/56.

Tex., Levelland—Hockley, Co., courthouse, general road and bridge maintenance repairing. **$171,000**.

Tex., McKinney—Collin Co., c/o Comrs. Court, Courthouse, road and bridge maintenance, repairing, grading, drainage, in 1957. **$173,100**.

Tex., Morton—Cochran Co., c/o Courthouse, road and bridge maintenance, imprvs. **$100,000**.

Tex., Stephenville—Erath Co., c/o Courthouse, road maintenance, grading, drainage, surfacing in 1957. **$121,000**.

Tex., Vernon—Wilbarger Co., c/o Comrs. Court., Vernon, road and bridge maintenance, repairing, grading in 1957. **$100,000**.

Tex., Wharton—Wharton Co., c/o Comrs. Court, Courthouse, road and bridge maintenance work in 1957. **$425,000**.

Wis., Nekoosa—City, street work, **$150,000**. Bids in May. J. Donohue Eng. Co., 606 N. 8th St., Sheboygan, consult. engr.

Wis., Sheboygan Falls—City, bituminous paving, concrete curb-gutters in various streets. **$111,000**. J. Donohue Eng. Co., 606 N. 8th St., Sheboygan, consult. engr.

EARTHWORK, WATERWAYS

▲† **California**—U. S. Eng., 1209 8th St., Sacramento, Black Butte Dam, Stony Creek, Sacramento River, Glenn Co. **$17,000,000**. CD 4/21/44.

▲ **Conn., Hartford**—Park River Flood Control Comn., 11 Asylum St., Hartford, 25 ft. conduit from Park River under Park St. to Wyllys St. thence to Connecticut River as a Park River surplus flow outlet, **$4,770,000**; 2 storage basins for Trout Brook **$1,350,000**; extending existing Park River conduit from State Capitol to west of Laurel St. **$9,000,000**; conduit for Cemetery Brook from Chandler St. to Park River, $400,000; diverting streams feeding into North Branch of Park River to flow directly to Connecticut River bypassing Hartford, Bloomfield and Windsor, **$1,500,000**; diverting several streams flowing into south branch of Park River to flow directly to Connecticut River, Newington and Wethersfield. **$950,000**; replacing 7 Park River bridges now partially obstructing flow of high water at Farmington, Asylum and Albany Aves, Park and Hamilton Sts. and Flatbush and Newfield Aves. **$950,000**. Metcalf & Eddy, 1330 Statler Bldg., Boston, Mass, consult. engrs. CD 6/6.

N. M., Las Cruces—City, flood protection. **$200,000**.

▲† **North Dakota**—U. S. Eng., Riverdale, Garrison Reservoir; Williston Levee (Sec. II), **$900,000-$1,300,000**; generators Units 4 and 5, **$5,400,000-$5,800,000**; main transformers, Units 4 and 5, **$700,000-$1,100,000**; Bids in May; oil field pipe cable system, Units 4 and 5, **$100,000-$300,000**; erosion control, (Buford-Trenton area), **$1,500,000-$1,900,000**. Bids in June.

Tex., Groesbeck—Limestone Co. Water Assoc., dam and reservoir on Navasota River for municipal and industrial purposes. **$450,000.** Freese, Nichols & Turner, C&I Life Bldg., Houston, consult. engrs. CD 7/19.

AIRPORTS

▲† **Ga., Savannah**—DINING HALLS, etc.—U. S. Eng., 200 E. St. Julian St., plans by Dennis & Dennis Architects and Richard V. Richard, Associate, consult. engrs.-archts., 409 N. Jefferson St., Albany, dining halls, Hunter Air Force Base. CD 8/30/55.

O., Lima—AIRPORT EXPANSION—City, City Hall, airport expansion, addition of North-South Runway and other imprvs, **$180,000**, CD 11/16/45.

† **O., Mansfield**—AIRPORT IMPRVS.—U. S. Eng., 237 Fourth Ave., Huntington 18, W. Va., soil erosion control program, concrete airplane parking apron for fighter planes, rocket bomb storage bldg. and flight simulator, Mansfield Municipal Airport, Est. over **$500,000**. Bids this spring.

LATIN AMERICA

▲ **Brazil, Sao Paulo**—PLANT, etc.—Ford Motor Co., The American Rd., Dearborn, Mich., U. S. A., plans engine plant and foundry near here. **$7,500,000.**

▲ **Mexico, Acapulco**—CINEMA, etc.—Gabriel Alarcon, Cine Alameda, Mexico City. Plans de luxe cinema and horse race track. **$1,000,000.**

PUBLIC BUILDINGS

▲ **Calif., Berkeley**—ADMINISTRATION—University of California, Administration Bldg., plans by Welton Becket & Assocs., 5657 Wilshire Blvd., Los Angeles, 8 story administration bldg. **$3,000,000.** CD 4/25.

▲ **Calif., Ontario**—SCHOOL—Chaffey High School & Junior College Dist., 4 and Euclid Sts., voted bonds Feb. 1, Student Junior College. **$5,000,000.** CD 12/4.

▲ **Calif., Ontario**—SCHOOL—Chaffey High School & Junior College Dist., 4th and Euclid Sts., voted bonds Feb. 1, high schools at Monte Vista, Cucamonga-Alta Loma, South Ontario and Guasti, and complete Upland High School. **$8,500,000.** CD 12/4.

Calif., Red Bluff—SCHOOL—Red Bluff Union High School Dist., c/o Supt., Red Bluff, voted bonds Jan. 29, school bldgs. and expansion. **$660,000.** CD 10/24.

▲ **Conn., Guilford**—SCHOOL—Town, Town Hall, plans by J. Ferald Phelan, 211 State St., Bridgeport, 1 story, concrete, brick, stone high school, Long Hill Rd., **$1,177,000.** Fletcher-Thompson, Inc., 211 State St., Bridgeport, consult. engr. Englehardt, Englehardt & Leggett, 221 W. 57 St., New York, N. Y., educational consultants. CD 10/10.

Conn., Norwich—HOSPITAL—State Public Works Dept., 165 Capitol Ave., Hartford, research and clinical laboratory, at Norwich State Hospital, **$358,000.**

▲ **Fla., Miami**—SCHOOL—Bd. P. Instruction Dade Co., 275 N. W. 2 St., plans by Irving Horsey, 9822 N. E. 2 Ave., Miami Shores, Pametto Junior-Senior High School, S. W. 120 St. and 77 Ave., South Miami, **$1,000,000.** CD 11/3/55.

▲ **Fla., Miami**—STATE OFFICE—Bd. Comrs. State Institutions, Terry C. Lee, secy., Tallahassee, state office bldg. **$1,000,000.**

▲ **Ill., Lake Forest** — SCHOOL — School District 115, 1285 McKinley Ave., plans by Stanley Anderson & Assoc., 270 E. Deerpath Rd., high school addn. and swimming pool, 1285 McKinley Ave. **$3,250,000.**

Ind., Avon—SCHOOL—Washington Twp. School Bldg. Corp., Avon, plans by O. A. Tislow, 618 Architects Bldg., Indianapolis, 2 story, masonry, steel, concrete grade school. **$500,000.** Fennig & Weir, 821 Broad Ripple Ave., Indianapolis, mech. engrs.

Iowa, Fenton—SCHOOL—Bd. Directors Central Community School Dist., Fenton, defeated $450,000 bonds Feb. 2, high school. **$400,000.** CD 2/1.

Iowa, Schleswig — SCHOOL — Bd. Educ., School Dist., Schleswig, $426,000 bond election Mar. 7, constr. 1 story, 76x195 ft. classroom and office wing and 42x67 ft. multi-purpose room wings, face brick, concrete block school, **$462,000.** Savage & Ver Ploeg, 12th and Grand St., West Des Moines, archts. CD 11/20.

▲ **Kan., Russell**—HIGH SCHOOL—Bd. Educ., Russell plans by E. M. Fuller, 701 E. 14th Ave., Kansas City, Mo., high school. **$1,750,000.**

▲ **Kan., Wichita**—ACTIVITIES CENTER—University of Wichita, Wichita, plans by U. C. Ramey & Assocs., Architects, 830 N. Main St., campus activities center. **$1,310,000.**

▲ **Me., Auburn**—SCHOOL—City, Lewis Webber, plans by Alonzo J. Harriman, Inc., 292 Court St., high school. **$1,000,000.**

Me., Mapleton—SCHOOL—Mapleton Castle Hill Chapman School Dist., School Dpt., plans by Kenneth E. Jackson, 46 Third St., Presque Isle, 2 wings high school. **$350,000.**

▲ **Md., Baltimore**—CIVIC CENTER—City, Bureau Bldg. Constr., 410 Municipal Bldg., Zone 2, plans by A. G. Odell Jr. & Assoc., 109 W. 3 St., Charlotte, N. C.,

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ADVERTISEMENT FOR BIDS

Northern Illinois Toll Highway

Bids to be opened March 21, 1957

CONTRACT T-2C

The Work to be done under this Contract shall be commenced on May 1, 1957, or on such earlier date as may be mutually agreed upon between the Commission and the Contractor. All work under this Contract shall be completed on or before December 15, 1958, and consists of: The grading, drainage, paving, the construction of appurtenances, and the erection of precast concrete bridges for approximately 2.45 miles of the Tri-State Route of the Northern Illinois Toll Highway in Construction Section T-2C thereof, beginning at a point about 1500' south of 111th Street at Tri-State Route Centerline Station 862+00 in Worth Township, Cook County, Illinois, and extending northerly to a point about 1083' south of 95th Street at Tri-State Route Centerline Station 991+38.35 in Palos Township, Cook County, Illinois.

The approximate quantities of the principal items of work are as follows:

Roadway Excavation	78,000 C.Y.
Special Excavation	48,000 C.Y.
Borrow	1,300,000 C.Y.
Special Fill	53,000 C.Y.
Selected Subgrade	46,000 C.Y.
Granular Subbase	24,000 C.Y.
10" Reinforced PCC Pavement	72,000 S.Y.
3" Bituminous Concrete Shoulders	40,000 S.Y.
Reinforcing Steel	1,300,000 lbs.
Structural Concrete	10,500 C.Y.

CONTRACT T-3B

The work to be done under this Contract shall be commenced on June 30, 1957, or on such earlier date as may be mutually agreed upon between the Commission and the Contractor. All work under this Contract shall be completed on or before December 15, 1958, and consists of: The grading, drainage, paving, the construction of appurtenances, and the erection of precast concrete and steel bridges for approximately 1.24 miles of the Tri-State Route of the Northern Illinois Toll Highway in Construction Section T-3B thereof, beginning at a point about 600 feet northwest of AT & SF Railroad yards at Tri-State Route Centerline station 1337+55.25 in Lyons Township, Cook County, Illinois, and extending northwesterly to a point about 200 feet north of 71st Street at Tri-State Centerline Station 1402+90.00 in Lyons Township, Cook County, Illinois.

The approximate quantities of the principal items of work are:

Roadway Excavation	775,000 C.Y.
Selected Subgrade	21,000 C.Y.
Granular Subbase	13,000 C.Y.
10" Reinforced PCC Pavement	39,000 S.Y.
3" Bituminous Concrete Shoulders	27,000 S.Y.
Structural Concrete	7,500 C.Y.
Reinforcing Steel	956,000 lbs.
Structural Steel (erection)	3,863,000 lbs.

THE ILLINOIS STATE TOLL HIGHWAY COMMISSION

20 N. Wacker Dr., Chicago

By Austin L. Wyman, Chairman

Write, wire or phone for detailed information and necessary forms, Chief Engineer, Room 1654, 20 N. Wacker Dr., Chicago 6, Ill. Telephone FRanklin 2-7020.

Previously advertised bids for Contracts E-1C and T-9A will be opened March 14, 1957.

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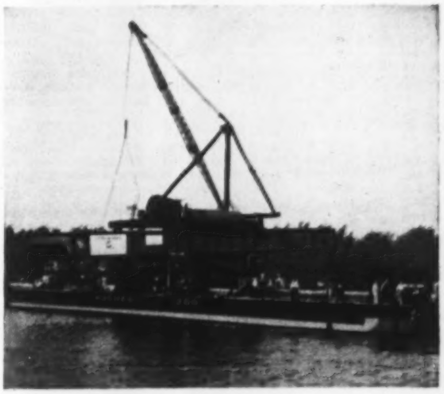

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CLEARING HOUSE FOR MARINE DIFFICULTIES SINCE 1894

masonry civic center, **$6,000,000-$8,000,000**. CD 11/8.

Md., Upper Marlboro—SCHOOL—Bd. Educ., Prince George Co., plans by Harder & Dressel, Glen Burnie, brick, concrete, steel, masonry Oxon Senior High School, Oxon, **$450,000**.

Mich., Escanaba—ELEMENTARY SCHOOL— Bd. Educ., Bark River-Harris School Dist., Escanaba, elementary school. **$450,000**.

▲ **Minn., Anoka**—SCHOOL—Bd. Educ., R. K. Nelson, clk., voted **$2,000,000** bonds Jan. 29, Junior High School CD 1/16.

▲ **Miss., Greenwood**—SCHOOL—City Council, **$1,275,000** bond election Mar. 7, schools. CD 4/11/51.

Mo., Independence—SCHOOL—Independence Public Schools, O. L. Plucker, supt. Schools, plans by Edward Fuller, 701 E. 14 Ave., North Kansas City, Mo., Wachler School and Hanthorn School addn. **$440,000**. CD 2/6.

Mo., Maryville—DORMITORY—Northwest State College, Maryville, plans by Boschen-Herschman-Bayerl, Terminal Warehouse Bldg., Packers Ave., South St. Joseph women's dormitory addn. **$500,000**. CD 3/23.

Mo., Warrensburg—SCHOOL—Bd. Educ. plans by D. R. Sandford & Sons, 800 Westport St., Kansas City, Mo., high school. **$664,000**.

▲ **N. J., Passaic**—SCHOOL—City, City Hall, plans by Alfons Alvarez, 243 Lorraine Ave., Upper Montclair, elementary school on east side, 2 acre site east of Fourth St. between Bergen and Mercer. **$1,000,000**. CD 1/18.

N. J., Sayreville—MUNICIPAL—Boro of Sayreville, Municipal Bldg., plans by Murray Liebowitz, 214 Smith St., Perth Amboy, two new wings for municipal bldg. to house library and addnl. office space. **$350,000**.

N. M., Roswell—DORMITORY—State Military Institute, Roswell, plans by William E. Burk Jr., archt.-engr., 512 Yale St. S. E., Albuquerque, 2 story, rein.-con., 27,000 sq. ft. dormitory, **$400,000**. CD 11/15/44.

O., Dover—SCHOOL—Tuscarawas Valley Local School Dist., Dover, bond election May 6, high school and New Cumberland Bldg. addn. **$930,000**. CD 11/13.

O., East Cleveland—SCHOOL—East Cleveland Bd. Educ., 1849 Shaw Ave., plans by Fulton, DelaMotte & Assoc., 6014 Euclid Ave., Cleveland, Zone 3, Shaw High School addn. **$750,000**.

O., Lorian—SCHOOL—Bd. Educ., Lorain, plans by Fulton Delamotte & Assocs., 6014 Euclid Ave., Cleveland, Zone 3, Irving School addn. **$360,000**.

▲ **Ore., Medford**—SCHOOLS—Medford School Bd., Medford, 2 elementary schools **$800,000**; high school addn. $400,000.

Ore., Monmouth—GENERAL ARTS—Oregon Bd. Higher Educ., University of Oregon, Eugene, General Arts Bldg., Oregon College of Education. **$330,000**. CD 7/6/45.

▲ **Ore., Portland** — CLASSROOM — Oregon Bd. Higher Educ., University of Oregon, Eugene, classroom building, at Portland State College, **$1,170,000**; central heating plant, **$200,000**. CD 5/24.

Ore., St. Helens—SCHOOL—Columbia County Dist. 502-C, St. Helens, bond election Mar. 5, high school, remodeling Junior High School. **$872,000**. Annand, Boone & Lei, 1530 S. W. Taylor St., Portland, archts. CD 2/25/55.

Pa., Polk—STORAGE WAREHOUSE—General State Auth., 18 and Herr Sts., Harrisburg, plans by Trefry Engineering Co., Box 230, Butler, storage warehouse, Polk State School. **$600,000**. CD 3/1/56.

R. I., Middletown—SCHOOL—St. Georges School, Middleton, plans by Howe, Prout & Ekman, 17 Custom House St., Providence, Auchincloss Hall addns., alterations, conversion gym to classroom and addn. of 2 wings-faculty housing, **$345,000**; gymnasium, north of Deman Hall, approx. **$400,000**. Constr. in 1957.

S. C., Charleston—WAREHOUSES, etc.—State Ports Auth., 1 Vendue Range, two 135,000 sq. ft. warehouses, 7 cargo berths, banana pier, 5 ninety-thousand sq. ft. transit sheds; an open berth, one 48,000 sq. ft. transit shed. CD 10/16/52.

▲ **S. C., Port Royal**—TERMINAL—S. C. State Ports Auth., 1 Vendue Range, Charleston, terminal, **$1,500,000**. CD 7/30/52.

Tex., El Paso—STUDENT UNION—The University of Texas, Administration Bldg., Austin, plans by Page, Southerland & Page, 602 West Ave., Austin, and Davis, Foster, Thorpe & Assocs., consult. archts., 1002 Mills Bldg., El Paso, student union for Texas Western College, **$600,000**. CD 5/7.

▲ **Tex., Freeport**—SCHOOLS—Brazosport Ind. School Dist., Freeport, bond election Feb. 23, group of school addns., Freeport area, **$1,682,467**. school expansion, Velasco, **$379,695**, primary school, West Freeport, **$437,838**.

▲ **Tex., Galveston**—SEMINAR, etc.—University of Texas, School of Medicine, c/o University Bd. Regents, Austin, plans by Page, Southerland & Page, 602 West Ave., Austin, addnl. classrooms, seminar, research facilities, University of Texas Medical Branch. **$7,300,000**. CD 1/12/53.

Tex., Kenedy—HOUSING—Housing Authority, P. J. Evans, chm., Kenedy, plans by Weidner & Walther, 610 Alamo National Bldg., San Antonio, 40-unit housing. **$350,000**. I. S. Seligmann, 215-A K&W Bldg., Karbach & Engel, 909 Maverick Bldg., and Reynolds & Morgan, 1003 Insurance Bldg., A 11 San Antonio, consult. engrs.

Tex., Port Arthur—HOUSING—Port Arthur Housing Auth., W. K. Monroe, exec. dir., Port Arthur, plans by Golemon & Rolfe, 5100 Travis St., Beaumont, 56 housing units. **$400,000**. CD 1/31/51.

▲ **Utah, Salt Lake City**—SCHOOLS—Granite School Dist., David Gurley, supt., 3212 S. State St., voted **$3,200,000** bonds Feb. 5, schools. CD 1/2.

Wash., Moxee—HIGH SCHOOL—School Bd., Moxee, plans by T. F. Hargis, Jr., Yakima, high school, **$500,000**. Work may start this year.

Wis., Bayside—SCHOOL—Jr. School Dist. 2, 7241 N. Lougacre Rd., Milwaukee, Zone 17, plans by Fritz von Grossman, 5455 W. Burleigh St., school addn. **$950,000**.

▲ **Wis., Madison**—SCHOOL—University of Wisconsin, Madison, plans by Roger C. Kirchoff, state archt., Madison, addn. to Law School, **$2,000,000**; central heating plant, **$3,000,000**.

▲ **Wis., Superior**—TRAINING SCHOOL, etc.—Wis. State Bldg. Corp., Madison, plans by Foeller, Schober, Berners, Safford & Jahn, 310 Pine St., Green Bay, 1 and 4 story training school and science bldg. **$1,750,000**.

▲ **Ont., Toronto**—HOSPITAL—Municipality of Metropolitan Toronto, 67 Adelaide St. E., plans by Howard D. Chapman, 61 Avenue Rd., hospital renovations, Riverdale Isolation Hospital, **$1,154,000**.

▲ **Ont., Welland** — HOSPITAL — Hospital Bd., J. F. Swayze, chn. Bldg. Com., 57 Main St. E., plans by Agnew & Ludlow, 752a Yonge St., Toronto, hospital, Welland area. **$3,750,000**. Arthur B. Scott Assoc., 65 Empire St., assoc. archts. Agnew, Craig & Peckham, 200 St. Clair Ave., W. Toronto, hospital consultants. CD 9/5.

Que., Montreal—GRAIN ELEVATOR—National Harbors Bd., West Block, Parliament Bldgs., Ottawa, Ont., addn. to Grain Elevator No. 3, Montreal Harbor, Over **$500,000**.

COMMERCIAL BUILDINGS

Colo., Broomfield—STORE—Safeway Stores, Inc., 810 14th St., Denver, 1 story store, 19,000 sq. ft. and parking area, **$350,000**.

▲ **Colo., Lakewood**—SHOPPING CENTER—May Department Stores Co., 16 and Champa Sts., Denver, plans by R. H. Ervin & Assocs., Denver Club Bldg., Denver, and Welton Becket & Assocs., 5657 Wilshire Blvd., Los Angeles, Calif., 375,000 sq. ft. brick shopping center. $6,000,000. To go ahead late 1957. CD 12/7/55.

Conn., Bristol—CHURCH, etc.—Hartford Roman-Catholic Diocesan Corp., 140 Farmington Ave., Hartford, church, rectory and parking area, Maltby St. **$350,000**.

▲ **Conn., Hamden**—HOUSES—Margaret M. Barraco, 84 Westview Terrace, Berlin, 114 houses, Sylvan Hills, Lane St. **$1,140,000**.

Conn., Madison—HOUSES—Mark L. Hagle, Main St., Westbrook, 63 houses, **$630,000**. Clarence Blair Assocs., Inc., 100 Crown St., New Haven, engr.

Conn., New Britain—PRESS—Fafnir Bearing Co., 37 Booth St., new building for press division, 33,000 sq. ft., High St. **$330,000**.

Conn., Rockville—HOUSES, etc.—Louis Goldfarb & Jack Levine, 24 Windsor Ave., 65 houses and 3 store shopping center. **$675,000**.

Conn., West Haven—BANK—First National Bank & Trust Co., 42 Church St., New Haven, plans by Douglas Orr, 111 Whitney Ave., New Haven, 2 story branch bank building, Campbell Ave. $345,000.

▲ **Fla., St. Petersburg**—OFFICE—Corp., c/o Joseph G. Gray & Co., 18 John St., New York, N. Y., 14 story office. **$2,500,000**.

Fla., Tampa—COBB BUILDING—Philip J. Cobb, Treasure Island, Tampa, plans by Crawford & Sandler, 151-A Cobb Bldg., Treasure Island Causeway, Treasure Island, 7 story, steel frame Cobb Building addn. incl. offices, stores and bowling alley, Treasure Island Causeway. **$500,000**.

Ill., Chicago—HOSPITAL—Bethany Methodist Hospital, 5025 N. Paulina Ave., plans by Hanson & Olson, 8114 S. Western Ave., 5 story, brick hospital addn., Paulina and Winnemac, **$400,000**. CD 6/18/53.

▲ **Ill., Evanston**—APARTMENT—Chas. Thumm Co., 4435 N. Damen Ave., Chicago, plans by Shaw, Metz & Dolio, 208 S. LaSalle St., Chicago, 7 story, 80 unit brick apartment, 823-31 Hinman Ave. **$1,000,000**.

Ind., Peru—DORMITORY, etc.—Young Men's Christian Assn., 171 N. Broadway, masonry, steel, concrete dormitory, small gymnasium and pool **$344,000**. Robt. L. Longarder, 211 S. Martindale Ave., Indianapolis, consult. engr. CD 2/16/55.

▲ **Ky., Louisville**—DEPARTMENT STORE—Louisville Realty Co., 1414 Bardstown Rd., 5 story addn. to present department store, Walnut St. between 3rd and 4th Sts. Over **$1,000,000**. Stewart Dry Goods Co., lessee.

Mass., Boston—CHURCH—Church of the Advent, 135 Mt. Vernon St., plans by Leland, Larsen, Bradley & Hibbard, 711 Boylston St., church addn., Mt. Vernon and Brimmer Sts. Approx. **$350,000**. Constr. in 1957.

Mass., Newton—FAREWELL HALL—Andover-Newton Theological School-Admin., 210 Herrick Rd., plans by Perry, Shaw, Hepburn & Dean, 31 St. James Ave., Boston-Farewell Hall. $500,000. Const. in 1957.

Mass., Newton—DORMITORY, etc.—Boston College, 140 Commonwealth Ave., plans by M. A. Dyer Co., 24 School St., Boston, dormitory and chapel, Hammond St. **$350,000**. Const. in 1957. CD 6/11/54.

Mass., Peabody—HOSPITAL—J. B. Thomas Hospital, c/o Mayor Philip C. O'Donnell, City Hall, addn. to hospital or new hospital on Buxton Hill. **$1,250,000**. Constr. in 1957-58.

Minn., Redwood Falls—OFFICE—General Services Admin., Pub. Bldgs. Service, General Services Bldg., 19 and F Sts., N.W., Wash. 25, D. C., plans by Magney, Tulser & Setter, Roanoke Bldg., Minneapolis, federal office, lease-purchase proj. **$440,000**.

▲ **Minn., Rochester**—HOTEL—Kahler Corp., R. Watson, pres., Kahler Hotel, plans by Ellerbe & Co., 301 First National Bldg., Rochester, remodel and constr. addn. to Kahler Hotel and Zumbro Hotel, **$1,500,000**. Five-year program.

Mo., St. Louis—HOTEL—Boulevard Investment Co., Norman K. Probstein, pres., 408 Olive St., Zone 1, plans by Wilburn C. McCormick, c/o Design, Inc., 906 Sidney St., Zone 4, 3 story, part bsmt., 52x235 ft., 52x80 ft., brick, steel hotel, 4635 Lindell Blvd., (Bel-Air Hotel). **$600,000**.

Neb., Omaha—THEATER—Community Playhouse, 4004 Davenport St., theater, 69 and Cass Sts. **$400,000**, F. Merion Mooberry, Omaha National Bank Bldg., consult. engrs.

▲ **N. J., Belleville-Nutley**—HOUSES—Peter Benigno & Walter Hoppel, operating as Rutan Estates, Inc., 936 Stuyvesant Ave., Union, 235 houses in Belleville and 40 in Nutley on adjoining tract forming development, **$5,000,000**.

▲ **N. J., Orange**—HOSPITAL—The Hospital Center, 179 Lincoln Ave., plans by Crow, Lewis & Wick, 200 Fifth Ave., New York 10, N. Y., and Egger & Higgins, 100 E. 42 St., New York 17, N. Y., orthopedic hospital unit. **$1,000,000**.

N. J., Summit—APARTMENT—Beacon Hill Towers Apartments, c/o Isidore Naftali, archt., 312 High St., Newark, 5 story co-operative apartment, Summit and Euclid Aves. **$500,000**.

N. J., West Orange—MEDICAL ARTS—Nassau Management Corp., 2 Park Ave., New York, N. Y. plans by Martin M. Gross, 629 Hamilton St., South Orange, medical arts bldg. on 5 acre site on Mt. Pleasant Ave. **$700,000**.

N. Y., Arrochar—SCHOOL—Archdiocesan Bldg. Comn., 451 Madison Ave., New York, Zone 22, replacement for St. John's Villa Academy High School, **$500,000**.

N. Y., Arrochar—SCHOOL—Archdiocesan Bldg. Comn., 451 Madison Ave., New York, Zone 22, replacement for St. Joseph Hill Academy High School, **$350,000**.

N. Y., Bay Shore—HOSPITAL—Southside Hospital, Montauk Highway, plans by Eggers & Higgins, 100 E. 42 St., New York, Zone 17, Northwest addition to hospital. **$400,000**.

N. Y., Blauvelt—SCHOOL—Archdiocesan Bldg. Comn., 451 Madison Ave., New York, Zone 22, St. Catherine Elementary School, Western Hy. **$600,000**.

▲ **N. Y., Buffalo**—HOMES—Galante Land Development Co., Augustine P. Galante, pres., 158 Edgewood Ave., Kenmore, 272 brick homes, 80 acre tract at Maple and Hopkins Rd. in Kenmore. **$5,400,000**.

N. Y. Grasmere—SCHOOL—Archdiocesan Bldg. Comn., 451 Madison Ave., New York, Zone 22, replacement for St. Dorothy Academy Elementary School on Hylan Blvd. **$600,000**.

N. Y., Harrison—SCHOOL—Archdiocesan Bldg. Comn., 451 Madison Ave., New York, Zone 22, St. Anthony Elementary School at Silver Lake, **$600,000**.

N. Y., Harrison—ACADEMY—Archdiocesan Bldg. Comn., 451 Madison Ave., New York, Zone 22, replacement for St. Walburga's Academy now at 630 Riverside Dr., to former Soong Estate, **$350,000**.

N. Y., Hartsdale—SCHOOL—Archdiocesan Bldg. Comn., 451 Madison Ave., New York, Zone 22, Maria Regina High School at Keats Ave. and West Hartsdale Rd. **$500,000**.

N. Y., Millbrook—SCHOOL—Archdiocesan Bldg. Comn., 451 Madison Ave., New York Zone 22, St. Joseph Elementary School, North Ave. **$600,000**.

▲ **N. Y., Nanuet**—SCHOOL—Archdiocesan Bldg. Comn., 451 Madison Ave., New York, Zone 22, Albertus Magnus High School adjacent to St. Anthony Church, Rte. 59, **$1,000,000**.

N. Y., Newburgh—SCHOOL—Archdiocesan Bldg. Comn., 451 Madison Ave., New York, Zone 22, replacement for St. Mary Elementary School, Gidney Ave. **$600,000**.

N. Y., New Dorp—SCHOOL—Archdiocesan Bldg. Comn., 451 Madison Ave., New York, Zone 22, Our Lady of Peace Elementary School addn., Steele Ave. **$400,000**.

N. Y., New York—ACADEMY—Archdiocesan Bldg. Comm., 451 Madison Ave., New York, Zone 22, new wing for Mount St. Ursula Academy, 330 Bedford Park Blvd., **$400,000**.

N. Y., New York—SCHOOL—Archdiocesan Bldg. Comm., 451 Madison Ave., Zone 22, St. Brigid Elementary School addn., 185 E. 7 St. **$400,000**.

N. Y., New York—SCHOOL—Archdiocesan Bldg. Comm., 451 Madison Ave., New York, Zone 22, St. Anselm School addn., 685 Tinton Ave. **$400,000**.

N. Y., New York—APARTMENT—Bank Street Property, Inc., 565 Fifth Ave., Zone 17, plans by Leo Stillman, 332 E. 149 St., Zone 51, 6 story apartment, 112-118 Bank St. **$400,000**.

N. Y., New York—OFFICE—First National City Bank of New York, 55 Wall St., Zone 6, plans by McKim, Mead & White, 101 Park Ave., Zone 17, office alterations at site, **$912,000**.

▲ **N. Y., New York**—OFFICE—Northern Insurance Co. of N. Y., 81 Maiden Lane, Zone 7, plans by Voorhees, Walker, Smith & Smith, 101 Park Ave., Zone 17, office 81-87 Maiden Lane. **$3,500,000.**

N. Y., New York—APARTMENT—Parkriver Realty Corp., 369 E. 149 St., plans by H. Herbert Lilien, 201 W. 72 St., Zone 23, 6 story apartment, Webster Ave. and 236 St. **$465,000.**

▲ **N. Y., New York**—SCHOOL—Sacred Heart of Mary School, 221 E. 71 St., Zone 21, plans by Eggers & Higgins, 100 E. 42 St., Zone 17, girls' high school to be called Marymount School, Pelham Parkway and Eastchester Rd. **$1,000,000.** CD 12/27.

N. Y., New York—OFFICE—2 Park Ave. Corp., 2 Park Ave., Zone 16, office alterations, **$750,000.** Sears & Kopf, 13 E. 37 St., Zone 16, engrs.

▲ **N. Y., New Rochelle**—ADMINISTRATION—Iona College, 715 North Avenue, plans by Eggers & Higgins, 100 E. 42nd St., New York, Zone 17, administration building, **$1,000,000;** faculty residence, **$500,-000.** CD 1/27/56.

N. Y., Peekskill—SCHOOL—Archdiocesan Bldg. Comm., 451 Madison Ave., New York, Zone 22, Assumption Elementary School addn., First St. **$400,000.**

N. Y., Peekskill—SCHOOL—Archdiocesan Bldg. Comm., 451 Madison Ave., New York, Zone 22, St. Columbanus Elementary School, Oregon Rd., North Peekskill, **$600,000.**

N. Y., Pelham Manor—SCHOOL—Archdiocesan Bldg. Comn., 451 Madison Ave., New York, Zone 21, Our Lady of Perpetual Help Elementary School, Fowler Ave. **$600,000.**

N. Y., Saugerties—SCHOOL—Archdiocesan Bldg. Comn., 451 Madison Ave., New York, Zone 22, replacement of St. Mary School, Cedar St. **$600,000.**

N. Y., Scarsdale—SCHOOL—Archdiocesan Bldg. Comn., 451 Madison Ave., New York, Zone 22, St. Pius X Elementary School, Palmer Ave. **$600,000.**

N. Y., Yonkers—SCHOOL—Archdiocesan Bldg. Comn., 451 Madison Ave., New York, Zone 22, St. Eugene Elementary School addn., Tuckahoe Rd. **$400,000.**

▲ **O., Ashtabula**—HOUSES—Gladding Constr. Co., Ashtabula, houses, Hiram and Gladding Aves. and Westshore Allotment. **$1,000,000.**

▲ **O., Cincinnati**—HOSPITAL—Deaconess Hospital, Clifton and Straight Sts., plans by York & Sawyer, 101 Park Ave., New York, N. Y., 6 story, bsmnt., 100-bed hospital. **$2,800,000.** CD 9/15/55.

O., Cincinnati—HOSPITAL—Holmes Hospital, Eden and Bethesda Ave., plans by Sam. Hannaford & Son, Dixie Terminal, hospital addn. **$950,000.** Planned for 1959,

▲ **O., Cincinnati**—HOSPITAL, etc.—St. Mary's Hospital, 816 Betts St., plans by Potter, Tyler, Martin & Roth, 128 E. 6 St., hospital **$4,500,000;** rehabilitation of present hospital facilities, **$500,000.** CD 9/15/55.

▲ **O., Garfield Heights**—SHOPPING CENTER—Turney Town Shopping Center, 704 Fidelity Bldg., Cleveland, Zone 14, plans by Damon, Worley, Samuels Assoc., Engineers Bldg., Cleveland, Zone 14, shopping center addn., 5000 Turney Rd. **$1,000,000.**

O., Lorain—CHURCH—St. Anthony's Catholic Church, Lorain, church to seat 700-750 people. **$350,000.**

O., Westlake—HOME—Lutheran Home for the Aged, 2116 Dower Center Rd., plans by McGreoge-Hargett & Assoc, 7016 Euclid Ave., Cleveland, Zone 3, 3 story hospital addn. **$400,000.**

Ore., Portland—BUILDING—Equitable Savings & Loan Assn., Equitable Bldg., plans by Skidmore, Owings & Merrill, 2040 S W Jefferson St., 4 story building addn., **$750,000.**

▲ **Ore., Portland**—BANK—First National Bank of Portland, 404 S. W. 6 Ave., plans by Stanton, Boles, Maguire & Church, Concord Bldg., 4 story 100x150 ft. bank addn. **$2,000,000.**

R. I., Providence—DORMITORY, etc.—Brown University, Barnaby C. Keeney, pres., Prospect St., plans by Perry, Shaw, Hepburn & Dean, 31 St. James Ave., Boston, Mass., altering Hope College Dormitory, **$350,000**, Constr. in 1957; skating rink near campus, **$250,000-300,000.**

▲ **Tex., Amarillo**—HOTEL-MOTEL—Ricks-Mcguire Co., 1008 Harrison, 8 story hotel-motel, on 200-acre site, **$3,000,000.**

Tex., Dallas—SCHOOL—Roman Catholic Diocese of Dallas & Fort Worth, c/o Rev. Thomas P. Gorman, bishop, 2122 Kidwell St., plans by Mark Lemmon, 201 Thomas Bldg., St. Augustine Parochial School, **$350,000.**

Tex., El Paso—STUDENT CENTER—Western College, C. A. Smith, bus. mgr., Box 180, plans by Davis, Foster, Thorpe & Assocs., 1002 Mills Bldg., student center, **$580,000**

Tex., El Paso—DWELLINGS—Zuni Inc., 7158 Dale Rd., 35 brick on rein.-conc. dwellings, Milagro Hills. **$350,000.** Constr. in 1957,

Tex., Houston—SHOPPING CENTER—H. T. Barry, c/o 517 W. Gray St., plans by Wylie W. Vale, 517 W. Vale St., Westmoreland Shopping Center, near Bellaire. **$450,000**

Tex., Houston—DWELLINGS—Sandalwood Development Corp. c/o Howard Singer, 5305 Blythwood St., 11 dwellings, Sandalwood Addn. **$357,750.**

Tex., Houston—BOWLING CENTER—Meyerland Co., 4703 Jason St., plans by Thompson McCleary, 2017 W. Gray St., 1 story, 22,000 sq. ft., masonry bowling center, **$350,000.**

Tex., Orange—POST OFFICE—General Services Admin., Public Bldgs. Service, Wash., D. C., constr. post office, lease-purchase project **$620,000**

Tex., San Antonio—DWELLINGS—Cliff Hagy, 314 Northridge St., plans by De Verne Kittles, 523 W. Hildebrand St., San Antonio, 22 dwellings. **$350,000.**

Tex., San Antonio—COMMERCIAL—Joe Rainey Manion & Co., 403 E. Travis St., plans by Clarence Rinard, 1526 Alamo National Bldg., remodeling 3 story, bsmnt., commercial bldg., Broadway and 3rd Sts. **$350,000.** W. E. Simpson Co., 945 Milam Bldg., consult. engr.

Wis., Mt. Calvary—CHAPEL—St. Lawrence Mission Seminary, plans by S. J. Stepnoski, 25 E. Merrill Ave., Fond du Lac. **$350,000.**

Que., Baie D'Urfe—SCHOOL—Baie d'Urfe-Senneville Protestant School Bd., P. O. Box 222, MacDonald College, Ste. Anne de Bellevue, plans by deBelle & White, 5925 Monkland Ave., Montreal, 15-classroom elementary school, west of Morgan Rd. in Montreal suburb. To be completed by fall of 1958.

▲ **Que., Montreal** — HOSPITAL — Hospital St. Michel, c/o Dr. Conrad Lemay, 1856 Belanger St. E. plans by Bruno Bedard, 475 Gouin Blvd., W., 3 story, bsmnt., concrete, brick rein.-con. 300-bed hospital, Cote St. Michel Rd. **$3,000,000.**

Que., Montreal—OFFICE—Montreal Building Trades Joint Com., 1526 St. Mark St., plans by Archibald, Illsley & Templeton, 1440 St. Catherine St. W., office building, Namur St., east of Cote des Neiges Rd. **$500,000,**

INDUSTRIAL BUILDINGS

Ala., Birmingham—FOUNDRY, etc.—Continental Gin Co., 4500-5th Av. S., steel castings foundry, incl. new electric furnace, annealing furnace, gas mains, etc. (1957), **$244,000;** wing to mfg. plant during 1957. **$250,000.**

▲ **Calif., West Sacramento**—PLANT—Ideal Cement Co., c/o Pres., Harbor Blvd., Redwood City, cement packaging and distr. plant. **$1,000,000.** Construction to begin soon.

▲ **Conn., Devon**—STEAM TURBINE GENERATOR PLANT.—Connecticut Light & Power Co., Selden St., Berlin, 100,000 kw. steam turbine generator plant, **$6,829,-900;** change No. 4 Generator to 115 kv at Devon Plant, **$210,000.**

Conn., Litchfield—WORKSHOP, etc.—Conn. Junior Republic, Goshen Rd., plans by Marcel Breuer, 201 E. 57 St., New York, N. Y., 1 story, brick, wood veneer workshop, laundry and automechanic shop. **$250,000.** Thomas Babbitt, West St., consult. engr.

Conn., Waterbury—FACTORY—Lee Mfg. Co., 16 Cherry St., plans by Warren H. Ashley, 967 Farmington Ave., West Hartford, factory addn. **$175,000,** Marchant & Minges, 1007 Farmington Ave., West Hartford, consult. engrs.

Ill., Collinsville—PLANT—Sand Prairie Packing Co., Henry Kaiman, pres., Box 238, Rte. 1, plans by A. Stanley Knorth, Box 402, Rte. 13, Kirkwood 22, Mo., 1 story, 100x100 ft., masonry, rein.-cón., steel, glazed tile, etc., meat packing plant.

▲ **Ill., Godfrey**—PLANT—Owens-Illinois Glass Co., Duraglas Center, 14th and Adams Sts., Toledo, O., constr. steel frame machinery parts mfg. plant to contain 180,000 sq. ft. floor space, on 94-acre tract, **$1,000,000.**

▲ **Ill., Harvard**—PLANT—Admiral Corp., 3800 W. Cortland St., Chicago, 150,000 sq. ft. addn. to electronics plant. **$1,500,000.**

▲ **Ind., Newburg**—SMELTING PLANT, etc.—Alum Co. of America, 1501 Alcoa Bldg., Pittsburgh 19, Pa., smelting plant, power house, lab., office, tranf. bldg., rectifier bldg., mch. shop., rod bldg., 20 bldgs. (office fire-resistive 2 story) others, steel frame, alum. siding, 3 mi. east of here, **$10,000,000,** Harry Balke Eng., 2330 Victory Parkway, Cincinnati 6, O., consult. engrs.

▲ **La., Oak Point**—PLANT—Oronite Chemical Co., (Sub. Standard Oil Co. of California) 200 Bush St., San Francisco, Zone 20, expansion of additives plant. **$1,200,000.**

▲ **Minn., Pine Bend** (P.O. South St. Paul)—PLANT—Liquid Carbonic Corp., J. E. Poole, vice. pres., 3100 S. Kedzie St., Chicago, Ill., liquid carbonic dioxide and dry ice plant at Pine Bend, south of Twin Cities. **$1,100,000.**

Neb., Lincoln—GARAGE and WAREHOUSE—Lincoln Telephone & Telegraph Co., 1342 Mo. St., garage and warehouse, 21st and L Sts. **$150,000.**

N. J., Newark—PLANT—Westinghouse Electric Co., 1180 Raymond Blvd., plans by Jos. Rosenthal, Engineers Co., Inc., 487 Orange St., 2 story, 40,000 sq. ft. plant, 95 Orange St. **$400,000.**

N. Y., New York—FACTORY—Seneca Realty Co., 60 E. 42 St., Zone 17, plans by Allen B. Bates, 2526 Webster Ave., Zone 58, 1 story factory, Seneca and Longfellow Aves. **$125,000.**

O., Cleveland—PLANT—Fisher Body Div. General Motors Corp., General Motors Bldg., Detroit, Mich., Baler House at Cleveland Plant, 13815 Coit Rd. **$700,000.** Wilbur & Watson, Assoc., 2930 Prospect Ave., Zone 15, consult. engrs.

O., Columbus—FACTORY—Hercules Box Co., E. A. Donnan, pres., 521 Marion Rd., 50,000 sq. ft. addn. to corrugated box factory. **$500,000.** work probably to start in late spring.

Tex., Houston—WAREHOUSE, etc.—Owner, c/o F. Woodrow-Bush, archt., 827 Ridge St., 60,300 sq. ft. warehouse, 10,500 sq. ft. office, Broad St. between Gulf Freeway and Telephone Rd. **$400,000.**

Tex., Houston—SHOP—Southern Pacific Lines, L. A. Loggins, ch. engr., Southern Pacific Bldg., diesel shop and head house. **$250,000.**

▲ **Tex., Wichita Falls**—REFINERY ADDNS.—American Petrofina, Inc., Wichita Falls, fluid catalytic cracking units, catalytic polymerization and platformer units at refinery. **$1,500,000.**

▲ **Wis., Milwaukee**—PLANT—Caterpillar Tractor Corp., 600 W. Washington, Peoria, Ill., plant addn. **$2,000,-000.**

▲ **Wis., West Allis**—PLANT—Borden Co., 620 N. 8th St., Milwaukee Zone 3, dairy plant. **$3,000,000.**

▲ **B. C., Vanvouver**—WAREHOUSE—B. C. Liquid Control Bd., Victoria, plans by Whittaker & Wagg, 525 Fort St., Victoria, rein.-con. warehouse, Marine Dr. between Yukon and Cambie Sts. **$1,000,000.**

Que., Riviere Des Prairies—PLANT—Foresteel Products Ltd., 2405 Ville Marie, Montreal, 500,000 sq. ft. site purchased for 1 story addn. to 175 x 250 ft. plant. **$300,000.** Maurice Beaudry & Associates, 333 Craig St. E., Montreal, consult. engrs. Bids soon.

UNCLASSIFIED

Ala., Birmingham—WAR MEMORIAL—N. Jefferson American Legion Post 102, Box 5564, war memorial, north of city limits. **$100,000.**

Ala., Columbia—DOCKS—Ala. State Docks Bd., State Docks, Mobile, inland docks facilities. **$250,000.**

Ala., Decatur—DOCKS—Ala. State Docks Bd., State Docks, Mobile, inland docks facilities for future expansion. **$250,000.**

Ala., Dothan—DOCKS—Ala. State Docks Bd. State Docks, Mobile, inland dock facilities. **$250,000.**

Ala., Eufaula—DOCKS—Ala. State Docks Bd., State Docks, Mobile, inland dock facilities. **$250,000.**

Ala., Florence—DOCKS—Ala. State Docks Bd., State Docks, Mobile, inland dock facilities. **$250,000.** Plans ready for bids.

Ala., Huntsville—DOCKS—Ala. State Docks Bd., State Docks, Mobile, inland docks facilities. **$250,000.** Plans ready 30-60 days.

Ala., Jasper—DOCKS—Ala. State Docks Bd., State Docks, Mobile, inland docks facilities. **$250,000.** Plans ready 30-60 days.

Ala., Tuscumbia—DOCKS—Ala. State Docks Bd., State Docks, Mobile, inland docks facilities. **$250,000.** Site purchased.

Calif., Glendale—MAUSOLEUM—Forest Lawn Co., 1712 S. Glendale Ave., plans by W. N. Montgomery, 111 E. Broadway, 2 story 105 x 165 ft. concrete mausoleum.

▲ **Connecticut** — TRANSMISSION LINE — Connecticut Light & Power Co., Selden St., Berlin, high power transmission line, Bunker Hill, Waterbury to Torrington, Waterbury, Watertown, Litchfield, Thomaston and Torrington, **$3,000,000;** rebuild existing 69 KV line from Devon plant to Derby Tap, Derby, Devon, Orange and Milford. **$1,000,000.** CD 12/19.

† **Connecticut**—HOUSING—U. S. Eng., 150 Causeway St., Boston, Mass., married personnel housing at guided missile bases, Eel's Hill, Milford and Diana St., Paramount Park, Orange. **$450,000.**

▲ **Ill., Chicago and Oak Park**—ELEVATED STATIONS—Chicago Transit Authority, Merchandise Mart, Chicago, elevated stations and tracks, Laramie to Harlem Ave. **$4,000,000.** CD 4/26/45.

Ky., Franklin—POWER LINE SYSTEM—Franklin Electric Power Bd., Franklin, rebuilding electric power line sys. **$350,000.**

Minn., Edina (P.O. Minneapolis)—PARK AND RECREATION AREAS—Village, Gretchen S. Alden, clk., voted $650,000 bonds Feb. 5, for acquisition and development of park and recreation areas, and a $200,000 bond issue for municipal swimming pool. **$850,000.** CD 12/20.

N. Y., Syracuse—PARK IMPRVS.—City, City Hall, Monkey Island and bear den at Burnet Park, **$125,000;** 36 in. rein.-con. drain in Hiawatha Blvd., **$70,000;** grade, laying temp. pavement in State Fair Blvd., **$75,000.** CD 2/27/56.

▲ **Ohio**—GAS PIPE LINE—East Ohio Gas Co., 1405 E. 6th St., Cleveland, Zone 14, 115 mi. gas pipe line from Ohio River to Brush Control Station just south of Cleveland. **$13,166,000.**

Ohio—ASSEMBLY HALL, etc.—Ohio Dpt. Parks, 65 S. Front St., Columbus, group assembly hall **$120,000;** and sleeping cabins **$435,000,** at Punderson Lake Park.

O., Cleveland—PARKING LOTS—City, Dpt. Public Safety, John N. McCormick, dir., City Hall, four off street parking lots around E. 140 St. and Kinsman Rd. for 335 cars. H. K. Ferguson Co., 1783 E. 11 St., Zone 14, consult. engr. CD 2/7.

Texas—PRODUCTS PIPELINE—Goliad Corp., Three Rivers, 37 mi. 6 in. products pipe line, Three Rivers to Pettus. **$210,000.**

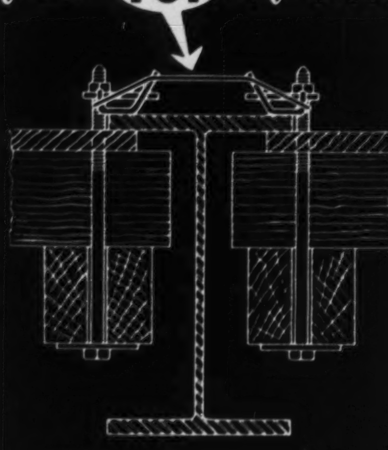
▲ **Texas**—RURAL DISTR. LINE—West Texas Utilities Co., 15 E. Beauregard St., San Angelo, 91 mi., 138,000 volt electric transmission line connecting Abilene with San Angelo, Tom Green Co. **$1,250,000.**

Tex., Midland—RADIO STATION—Great Western Radio Co., 208 W. Jax St., radio station. **$100,000.**

Tex., San Angelo—SUB-STATION, etc.—West Texas Utilities Co., 15 E. Beauregard St., electric power sub-station in North San Angelo, **$250,000;** street lighting system and conversion existing lines to higher voltage. **$300,000.**

Tex., Texas City—STADIUM, etc.—Texas City Ind. School Dist., Texas City, 6,000 seating capacity stadium, field house; wooden bleachers, area and field lighting; appurtenances. Wyatt C. Hedrick, 5201 Fannin St., Houston, consult. engrs. CD 12/10/54.

Faster Adjustment from TOP of Deck



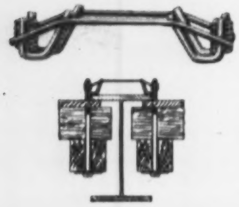
TOTAL SAFE LOAD ON BOTH COIL BOLTS IS 10,000 LBS., OR 5,000 LBS. PER BOLT

.. WHEN HANGING FORMS WITH SUPERIOR PLATE HANGER FRAMES

With Superior Plate Hanger Frames the installation and necessary adjustment to bring the deck forms tight against the flange are from *above* the deck. Coil Bolts are passed through and secured from above with coil nuts. Bolts are easily removed without binding because, (1) nuts are square and will not turn; (2) embedment of the bolts in the concrete is at a minimum since the plate is only 1/2" above the flange.

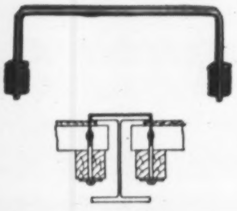
FOUR OTHER SUPERIOR WAYS TO HANG FORMS FROM STEEL BEAMS AND GIRDERS ON BRIDGE SUPERSTRUCTURES

STANDARD COIL HANGER FRAME



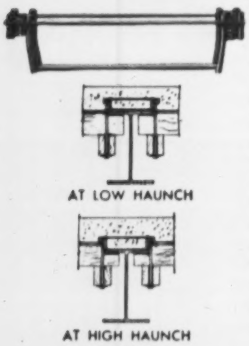
When hanging forms where specifications do not permit any hanger wire to be exposed after stripping, use Superior *Standard* Hanger Frames. Detail at left shows their use with double ledgers, 1/2" coil bolts, and flat washers. Total safe load on both bolts for Type 10M is 10,000 lbs., or 5,000 lbs. per bolt. For Type 6M, total safe load on both bolts is 6,000 lbs., or 3,000 lbs. per bolt.

COIL BEAM SADDLE



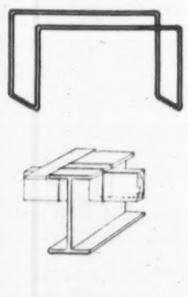
On jobs where hanger wires may be cut after stripping the forms, use Superior Coil Beam Saddles. The Coil Bolts allow for any variation in lumber and flange thickness and tightening the bolts pulls the forms tightly against the flanges. Forms are easily stripped. Safe load is 6,000 lbs. per saddle, or 3,000 lbs. for each 1/2" Coil Bolt. Coil Beam Saddles are also furnished for 3/4" and 1" bolts.

SPECIAL HANGER FRAME



The design of certain bridge superstructures allows for the permanent deflection of the beams or girders due to the pre-calculated dead load. This deflection is compensated by a concrete haunch of varying depth on the upper flange. Superior *Special* Coil Hanger Frames were developed to meet this field condition, at the same time avoiding any exposed hanger wire. The extent to which the 1/2" coil Bolts are threaded into the coils allows for these varying haunch depths from maximum to zero. (See detail). Total safe load per frame is 10,000 lbs., or 5,000 lbs. per 1/2" bolt.

WIRE BEAM SADDLE



Wire Beam Saddles are used to hang centering joists from structural steel beams when the beams are not fireproofed with concrete. On non-fireproofed structures the load is determined by the allowable spacing of centering joists rather than the capacity of the hanger. Available in three gauges and sizes as required. Will carry safely, total loads of 2,500 lbs. to 6,000 lbs. Layouts and estimates will be sent upon receipt of plans or quantities. No obligation.

WORKING PARTS (Bolts and washers) are returnable. Layouts and estimates for Superior Hangers are available without obligation.

SUPERIOR CONCRETE ACCESSORIES, INC.

9301 King St., Franklin Park, Ill.
(A Suburb of Chicago)

New York Office
1775 Broadway, New York 19, N. Y.

Pacific Coast Plant
2100 Williams St., San Leandro, Calif.

Bids—Low Bids—Contracts—Second Section

NEW ENGLAND

HEAVY CONSTRUCTION—BA

STATE HIGHWAY LETTINGS
BRIDGES
March 11 Connecticut
STREETS AND ROADS
March 11 Connecticut

BUILDINGS—BA

Conn., Milford—HOSPITAL—BA 3/5—Milford Hospital Soc. Bldg. Comn., 31 Robert Treat Parkway, 3 story, 40x100 ft. hospital addn. $550,000. Frank C. DeFelice, 23 Temple St., New Haven, engr. Jesse J. Hamblin, 1188 Main St., Bridgeport, archt. CD 1/4/57.

HEAVY CONSTRUCTION—LB & CA

▲ **CONNECTICUT**—State Hy. Dpt., 165 Capitol Ave., Hartford,

L. G. DeFelice & Son, Inc., Nettleton Ave., North Haven, Conn., LB **$4,876,543**. (8 bidders) Proj. 324-01, Conn. Turnpike Proj. approx. 47,822 lin. ft. grading, drainage, rein.-con. pavement incl. 9 grade separations structures and 2 box culverts, Old Lyme, East Lyme and Waterford. Bids Feb. 18. CD 1/30.

† **The Brooklawn Constr. Co.**, 254 Prospect Ave., West Haven, Conn., LB **$390,465** Lot "A" field maintenance shops and utilities and R. U. Shop, at WINDSOR LOCKS, CONN. U. S. Eng., 150 Causeway St., Boston, Mass. Bids Feb. 15. CD 1/31.

BUILDINGS—LB & CA

Gamache Constr. Co., Inc., 346 Central St., Manchester, N. H. CA Approx. **$170,000**. INDUSTRIAL BLDG., MANCHESTER, N. H. Standard Overall Dry Cleaning, Inc., Manchester, N. H. CD 12/28, under LB.

Samuel Aceto & Co., 40 Preble St., Portland, Me. CA Approx. **$800,000**. Kimball Lane RESEARCH CENTER, 1 large bldg., K shaped, swimming pool, recreation center, 36 dwellings, landing strip for private planes, Alewive Section, KENNEBUNK, ME. Morton Portland Corp., Richard Oransky, pub. dir., 53 Exchange St., Portland, Me. CD 12/26.

William V. Heard, 12 Manning St., Lexington, Mass. Owner Builds. Approx. **$365,000**. RESIDENTIAL DEVELOPMENT "Canobie Hills" 25 houses, just off Rte. 28, SALEM, N. H.

Campannelli Homes, Inc., 186 Boden Lane, Natick, Mass., Owner Builds. Approx. **$350,000**. RESIDENTIAL DEVELOPMENT "Arrowhead Village", 25 houses, Indian Heights off Ashland St., BROCKTON, MASS.

▲ **Walter Kidde & Co., Inc.**, 675 Main St., Belleville, N. J., CA **$2,900,000**. 1 story, 250,000 sq. ft., main PLANT and 2 story, 20,000 sq. ft. OFFICE, 100,000 sq. ft. PILOT PLANT, at Dudley Town Rd., BLOOMFIELD, CONN., Allen Manufacturing Co., 133 Sheldon St., Hartford, Conn.

A. V. Tuchy, Inc., Muller Ave., Norwalk, Conn., CA **$550,000**, 1 story FACTORY addn., MILFORD, CONN., Burdy Engineering Co., Inc., Wampus Lane, Milford, Conn. Leo F. Caproni, 132 Temple St., New Haven, Conn., archt. CD 9/14.

▲ **Atlas Milford, Inc.**, c/o Sol G. Atlas, Cross Country Center, Yonkers, N. Y., Owner Builds. **$20,000,000**. Connecticut Post SHOPPING CENTER, Boston Post Rd., MILFORD, CONN. Jesse J. Hamblin, 1188 Main St., Bridgeport, consult. archt. Lathrop Douglass, 518 5 Ave., New York 36, N. Y., archt. Clarence Blair Assoc., Inc., 100 Crown St., New Haven, consult. engr. CD 1/30.

▲ **Fusco-Amatruda Co.**, 59 Amity Rd., New Haven, Conn., LB **$3,093,000** (2 bidders) Wilbur Cross High SCHOOL, NEW HAVEN, CONN. Bd. Educ., 200 Orange St., New Haven, Conn. Bids Feb. 15. CD 1/22.

Barba & Cimmino Inc., 57 Grandview Ave., Hamden, Conn., LB **$833,500**. (4 bidders) Proj. BI-R-122B, 2 story, masonry FINE ARTS BLDG., New Haven State Teachers College, NEW HAVEN, CONN. State P. Wks. Dpt., 165 Capital Ave., Hartford, Conn. Bids Feb. 13. CD 2/5.

MIDDLE ATLANTIC

HEAVY CONSTRUCTION—BA

Pa., Bellefonte—ELECTRICAL DISTRIBUTION SYSTEM—BA 3/13—General State Auth., 18 and Herr Sts., Harrisburg, rehab. electrical distr. sys. at state penitentiary at Rockview, $128,000. Plans deposit $10, W. A. Robinson, 917 N. Second St., Harrisburg, engr.

† **Md., Andrews Air Force Base**—DORMITORIES—BA On Or About 3/26—U. S. Eng., First and Douglas Sts. N. W., Wash. 25, D. C., four airmen dormitories, ENG.-49-080-57-61-(60). Plans deposit $25. CD 10/26.

Pa., New Brighton—HOSPITAL—BA 3/4—Beaver Valley General Hospital, New Brighton, 3 story, 70x100 ft., brick, block, steel hospital addn. $400,000. Plans deposit $50, Michael Baker Jr., Jos Bontempo & Assoc., 115 Shields St., Rochester, archts. CD 12/21.

N. J., Laurelton—GARAGE—Bids Asked—J & M Realty Co., c/o Michael Calandriello, P. O. Box 516, Eatontown, 1 story, 17,000 sq. ft. brick, stucco, garage, $115,000, D. H. Hair & Assoc., 38-40 Park Place, Newark, archts. CD 1/30.

Pa., Conshohocken—FACTORY—Bids Asked—W. C. Hamilton & Sons, Miquon, 1 story, 70,000 sq. ft. steel, block factory, $250,000, James L. Gravel, co. ch. engr.

Pa., Phila.—SHOP—Bids Asked—Phila. Transportation Co., 820 W. Dauphin St., trolley maintenance shop, $750,000.

HEAVY CONSTRUCTION—LB & CA

Edenwald Contg. Co., 151-45 Sixth Rd., Whitestone, N. Y. LB **$180,440**. playground adjacent to Junior High School 217, between 144 St. and 148 St., south of 85 Ave., Queens, Contr. Q-G-35350-156, NEW YORK. Comr., Parks Dpt., Parks Arsenal Bldg., Central Park, 65 St. and Fifth Ave., New York 21, N. Y. Bids Feb. 15. CD 2/6.

B. Turecamo Contg. Co., Inc., Belt Parkway, foot of 24 Ave., Brooklyn, N. Y. LB **$125,762**. No. 4 grading, curbing, flagging, paving with asph. Stuart St.; grading, curbing Start St.; and No. 5, resurf. with b. conc., Bond St., BROOKLYN, N. Y. President of Brooklyn Boro, Boro Hall, Brooklyn 1, N. Y. Bids Feb. 14. CD 2/6.

Howard & Sprague, Inc., 656 State St., Binghamton, N. Y. LB **$195,908** (4 bidders) reconstr. Harrison Ave. sewers, ENDICOTT, N. Y. Bd. Trustees, Council Chambers, Village Hall, Endicott, N. Y. Bids Feb. 11. CD 1/15.

Burrell Constr. & Supply Co., 1 Fifth St., New Kensington, Pa. LB **$104,876**. road wid'n. reconstr. Crawford Run Rd., Sect. 2, East Deer Twp., PITTSBURGH, PA. Bd. Comrs. Allegheny Co., Court House, Pittsburgh, Pa. Bids Feb. 5. CD 1/31.

▲† **Albrecht Constr. Co.**, 2626 W. 26 St., Chicago, Ill. LB **$1,288,532**. local flood control proj., channel imprvs., North Branch, Potomac River, Sect. 2, and railroad relocation Cumberland, Md. and Ridgeley, W. Va.. MARYLAND AND WEST VIRGINIA. U. S. Eng., First and Douglas Sts. N.W., Wash., D. C. Bids Feb. 19. CD 1/21.

† **U. S. Eng.**, 2635 Abbottsford Rd., Phila., Pa., cancelled bids to have been opened Feb. 5, dock facilities, sewers, water lines and road constr., Dover Air Force Base, ENG-36-109-57-42. DOVER, DEL. Est. **$192,306**. CD 1/10.

BUILDINGS—LB & CA

▲† **National Concrete Fireproofing Co.**, 556 Terminal Tower Bldg., Cleveland, O. CA **$1,199,900**. RECREATION and THEATER BLDG. No. 92, Veterans Admin. Center, BATH, N. Y. Veterans Admin., Munitions Bldg., Wash., D. C. CD 1/17, under LB.

▲ **Isaac Putterman**, 120 Broadway, New York 7, N. Y. Owner Builds. **$1,000,000**. Midtown SHOPPING CENTER, Morris and Spring Sts., MORRISTOWN, N. Y. Schulman & Soloway, 161-10 Jamaica Ave., Jamaica, N. Y., archts.

▲ **Lazere Constr. Corp.**, 66 Park Ave., New York 16, N. Y. LB **$3,651,000**. (6 bidders) general constr., JUNIOR HIGH SCHOOL 22, Sheriff St. between Stanton and Houston Sts., Manhattan Boro. NEW YORK, N. Y. Director, Bureau Constr., 42-15 Crescent St., Long Island City, 1, N. Y. Bids Feb. 14. CD 2/7.
Afgo Engineering Corp., 475 Adelphi St., Brooklyn 17, N. Y. LB **$491,000**. (3 bidders) heating and ventilating work. (New York, N. Y.).

▲ **Falk, Leone & Houch**, c/o Landlock Associates, Inc., Depot Plaza, Mount Kisco, N. Y. Owner Builds. **$2,000,000**. 150 HOUSES, on tract on North Division St., PEEKSKILL, N. Y.

▲ **AMF Atomics, Inc., sub American Machine & Foundry Co.**, 261 Madison Ave., New York 16, N. Y. CA design and construct, five megawatt pool-type REACTOR for Nuclear Research Center, STERLING FOREST, N. Y. Union Carbide Nuclear Co. and Union Carbide Ore Co., c/o Union Carbide & Carbon Corp., 30 E. 42 St., New York 17, N. Y.

Silvercrest Realty Corp., c/o Lawrence Rothman, archt., 147 E. 125 St., New York 25, N. Y. Owner Builds. **$650,000**. 85 APARTMENT units, 277 Bronx River Rd., YONKERS, N. Y.

Westside Development Co., c/o Jack M. Sobil, 1309 Bacharach Blvd., Atlantic City, N. J. Separate Contracts. **$400,000**. RESIDENTIAL DEVELOPMENT, 40 units, ATLANTIC CITY, N. J.

▲ **R. A. Prendergast & Sons**, 3010 Sunset Ave., Atlantic City, N. J. CA **$1,508,984**. general constr. 8 story, brick, steel HOSPITAL new wing and entrance bldg., ATLANTIC CITY, N. J. Atlantic City Hospital, 26 S. Ohio Ave., Atlantic City, N. J. CD 1/16, under LB.

▲ **Raleigh Homes, Inc.**, c/o P. Faracini, **Charles and Passmore Sts., Phila., Pa. Separate Contracts. $1,364,000.** RESIDENTIAL DEVELOPMENT **124 units, 28 St., CAMDEN, N. J. J. Praissman, 521 Cooper St., Camden, N. J., archt.**

E. G. Elzey & Son, 111 N. Fourth St., Camden, N. J. Separate Contracts. **$350,000**. RESIDENTIAL DEVELOPMENT, various locations, CAMDEN, N. J.

Cresskill Heights Homes, c/o Pasford Ltd., 37-01 Broadway, Fairlawn, N. J. Owner Builds. **$500,000**. 20 HOUSES on tract at Palisades Ave. and County Rd., CRESSKILL, N. J.

J. H. Wiggins & Sons, Inc., 5517 Crescent Blvd., Pennsauken, N. J. LB **$115,000**. 1 story, brick, block, steel, stone, 54x62 ft. GARAGE, 36x86 enamel OFFICE, ERLTON, N. J. Owner, c/o Cox & Guttman, archts., 709 Market St., Camden, N. J. Bids Jan. 8. CD 1/7.

▲ **Industrial Engineering Co., Inc.**, 50 Church St., New York 7, N. Y. CA Est. **$1,000,000**. 8 story, 80x160 ft., air-conditioned Bridge Plaza TERMINAL BLDG., FORT LEE, N. J. National Publishing Co., Bridge Plaza, Fort Lee, N. J. Lester Cohen, 41 Main St., Hackensack, N. J., archt. CD 3/13.

▲ **B. J. Lucarelli Co., Inc.**, 22 Orchard St., Jersey City, N. J. CA **$1,755,000**. (8 bidders) construct and finance 200 HOUSING UNITS, (Capehart), ENG-30-075-57-1, FORT MONMOUTH, N. J. U. S. Eng., 111 E. 16 St., New York 3, N. Y. CD 1/4, under LB.

Glassmont Builders, Inc., c/o Carl Moldoff, Euclid Ave., Camden, N. J. Separate Contracts. **$950,000**. RESIDENTIAL DEVELOPMENT, 78 units, Carpenter St., GLASSBORO, N. J.

Cherry Quay Cove, Inc., Osbornville, N. J. Separate Contracts. **$350,000**. RESIDENTIAL DEVELOPMENT, Captain Dr., OSBORNVILLE, N. J. J. G. Phillips, Toms River, N. J., archt.

▲ **Costello W. Pizzutillo**, 2223 46 St., Pennsauken, N. J. CA **$4,000,000**. 174-unit RESIDENTIAL DEVELOPMENT, Perry Rd., etc., PALMYRA, N. J. Riverton-Moorestown Road Plantation, 543 Cinnaminson Ave., Palmyra, N. J.

Jarnap Co., Inc., 15 Exchange Place, Jersey City, N. J. Separate Contracts. **$750,000**. SHOPPING CENTER, supermarket, parking lot, Woolworth Store, shoe store, PLEASANTVILLE, N. J. William Dean Faint, 1915 Browning Rd., Pennsauken, N. J., archt.-engr.

Jarnap Co., Inc., 15 Exchange Place, Jersey City, N. J. Separate Contracts. **$750,000**. SHOPPING CENTER, supermarket, parking lot, SALEM, N. J. William Dean Faint, 1915 Browning Rd., Pennsauken, N. J., archt.-engr. American Stores Co., lessee of supermarket.

Alexander Savonick, 210 Nancy Lane, Trenton, N. J. Separate Contracts. **$350,000**. RESIDENTIAL DEVELOPMENT, Hillwood Manor, TRENTON, N. J.

N. J. Post Constr. Co., 207 E. Collingswood Ave., Oaklyn, N. J. CA **$344,000**. SYNAGOGUE, VINELAND, N. J. Beth Israel Congregation, 1050 Park Ave., Vineland, N. J. Bids Dec. 28. CD 12/19.

Edward B. Brown & Son, Hathaway Lane, Essex Fells, N. J. LB Est. **$400,000**. HOME for the AGED, incl. admin. bldg. and infirmary, 33 Mt. Pleasant Ave., WEST ORANGE, N. J. Newark Episcopal Diocese, c/o Edwin Bonta, archt., 63 Sunset Ave., Verona, N. J., archt.

▲ **Corbitt's, Inc.**, 225 S. Front St., Reading, Pa. CA **$600,000**. interior plumbing constr. for Embreeville State HOSPITAL, EMBREEVILLE, PA. General State Auth., 18 and Herr Sts., Harrisburg, Pa. CD 2/1, under LB.
Ross Electric Constr. Co., Inc., 106 Fairmount Ave., Phila., Pa. CA **$817,700**. interior electrical constr. (Embreeville, Pa.).

Food Fair Stores, Inc., 401 E. Erie Ave., Phila., Pa. Separate Contracts. **$344,000**. 1 story, bsmnt., masonry SUPERMARKET and parking lot, Earling Rd., HAVERTOWN, PA.

▲ **Ridgeburn Corp.**, att. Bernard Weinberg, 1649 N. Broad St., Phila., Pa. Separate Contracts. **$1,500,000**. RESIDENTIAL DEVELOPMENT, 117 units, Swedesford Rd., MALVERN, PA.

▲ **Mellon Stuart Co.**, 210 E. Parkway N.S., Pittsburgh, Pa. CA Est. **$4,500,000**. 9 story, bsmnt., brick, block, steel HOSPITAL addn., alterations, PITTSBURGH, PA. Children's Hospital, 125 DeSota St., Pittsburgh, Pa. Bids Feb. 5. CD 1/31.

▲ **Geo. A. Fuller Co.**, First National Bank Bldg., Pittsburgh, Pa. CA Est. **$7,000,000**. 21 story, steel, concrete OFFICE, PITTSBURGH, PA. H. K. Porter Co., Alcoa Bldg., Pittsburgh, Pa. CD 12/6.

U. S. Eng., First and Douglas Sts. N.W., Wash., D. C. rejected bids Feb. 5, 70 HOUSING UNITS (Capehart), FORT RITCHIE, MD. LB **$935,364**. CD 2/7, under LB.

▲ **Giant Food Properties**, 1726 L St. N.W., Wash., D. C. Owner Builds. **$2,000,000**. SHOPPING CENTER, University Lane and New Hampshire Ave., to be known as Hampshire Langley, TAKOMA PARK, MD. Joseph Saunders & Assocs., 1728 L St. N.W., Wash., D. C., archts.

▲ **Giant Food Properties**, 1726 L St. N.W., Wash., D. C. Owner Builds. **$1,000,000**. SHOPPING CENTER to be known as White Oak Community Center, WHITE OAK, MD. Joseph Saunders & Assocs., 1728 L St. N.W., Wash., D. C., archts.

A. L. Wheeler, Sheraton Bldg., Wash., D. C. Owner Builds. **$850,000.** 17 HOUSES "Dumbartob Rock Court" P St. N.W. 30, 31 and Q Sts., WASH., D. C. CD 10/24.

▲ **Garfield & Sankin**, 5437 Connecticut Ave. N.W. Owner Builds. **$1,500,000.** 8 story APARTMENT HOUSE, Connecticut Ave. and Legation St. N.W., WASH., D. C. Thoman & Cromar, 8226 Fenton St., Silver Spring, Md., archts.

Edward J. Hill, 2309 Concord Pike, Wilmington, Del. Separate Contracts. **$900,000.** 50-unit RESIDENTIAL DEVELOPMENT, near WILMINGTON, DEL.

▲ **Wallace Engineering & Constr. Co.**, Bryn Mawr, Pa., CA **$1,349,500**, 2 story, bsmnt., 146x198 ft. brick, block, bluestone, structural glazed tile and structural steel frame DINING HALL and STUDENT UNION BLDG., NEWARK, DEL. University of Delaware, Newark, Del. Bids Dec. 20. CD 12/11.

▲ **E. I. duPont de Nemours & Co., Inc.**, Louviers Bldg., Wilmington, Del. Own Forces. **$1,500,000.** 2 story, DuPont OFFICE and HOTEL addn., WILMINGTON, DEL. C. H. Topping, c/o owner, ch. engr. CD 1/5/56.

▲ **E. I. duPont de Nemours & Co., Inc.**, Louviers Bldg., Wilmington, Del. Own Forces. **$1,500,000.** POLYCHEMICALS RESEARCH BLDG., WILMINGTON, DEL. C. H. Topping, c/o owner, ch. engr. CD 8/21/46.

SOUTH

BUILDINGS—BA

Ga., Macon—PHYSICAL EDUCATION—BA 3/19—State Bd. Educ., Room 233 State Office Bldg., Atlanta 3, physical education bldg., Ga. Academy for the Blind, 2895 Vineville Ave. Macon, James C. Wise & Assoc., 305 Techwd. Dr. NW and Johnston & Tippett, Assoc., 83 Spring St. NW, Atlanta, archts.

Va., Arlington — SCHOOL—BA 3/19 — Arlington Bd. Educ., 1426 Quincey St. North, Arlington, Kenmore Junior High School. Plans deposit $50. Rhees Burket, 1223 Connecticut Ave. N. W., Wash., D. C., archt. CD 6/7.

† **Va., Vint Hills Farms Station** — BA 3/19 — U. S. Eng., First and Douglas Sts. N.W., Wash. 25, D. C. library, research and professional, at Vint Hill Farms Station, ENG-49-080-57-55-(54).

BUILDINGS—SLC

Tenn., Athens—DORMITORY—Tennessee Wesleyan College, Athens, soon lets contract, mens dormitory. Plans deposit $50. Ayers & Godwin, Bona Allen Bldg., Atlanta, Ga., archts.

HEAVY CONSTRUCTION—LB & CA

▲† **Merritt Dredging Corp.**, Berkeley Court Apartments, Charleston, S. C., LB **$1,166,150**, enlarging channel of Intracoastal Waterway, Jacksonville to Miami, CIVENG-08-123-57-39, FLORIDA. U. S. Eng., P.O. Box 4970, Jacksonville, Fla. Bids Feb. 12. CD 1/24.

▲ **Fred Howland, Inc.**, 1451 N.W. 20 St., Miami, Fla., LB **$1,999,400** Item 1, Base Bid; LB **$639,000** Item 2 Deduct; hangar and apron, Miami International Airport, (American Airmotive Corp.), MIAMI, FLA. Bd. Comrs. Dade Co., Court House, Miami, Fla.

▲† **W. L. Hailey Co.**, 314 42 Ave. N., Nashville, Tenn. LB **$2,018,000.** flood protection works Sect. 2, pumping stations, Sect. 2, 1,560 ft. earth levee, 4 gate openings, 4 pump stations, etc., Catlettsburg, Boyd Co., CIVENG-46-022-57-31, KENTUCKY. U. S. Eng., 247 Fourth St., Huntington, W. Va. A. M. Kinney, 2905 Vernon Place, Cincinnati, O., consult. engr. Bids Feb. 13. CD 1/28.

† **VIRGINIA**—Bureau P. Rds. Dpt. Commerce, 1440 Columbia Pike, Arlington,
Suburban Excavators, Inc., 4901 Randolph Rd., Rockville, Md., LB **$665,937** (13 bidders) Proj. 1A13, George Washington Memorial Parkway 1.59 mi. grading, drainage, other work from Leesburg Rd. to Federal Area, Fairfax. Bids Feb. 14. CD 1/23.

† **Van de Riet Constr. Co.**, 520 W. 25 St., Norfolk, Va., LB $244,875 (12 bidders) battalion headquarters Special AAA Site N-52C, EM barracks and officers quarters, near Portsmouth, ENG-44-110-57-14, VIRGINIA. U. S. Eng., foot of Front St., Norfolk 1, Va. Bids Feb. 7. CD 1/22.

NORTH CAROLINA—State Hy. & P. Wks. Comn., Raleigh,
W. F. Brinkley & Son Constr., Granite Quarry, N. C. CA **$923,643**, est. $400,000-$500,000. structures 8.69 mi., Proj. 6405, Iredell Co. Bids Jan. 22, awarded Feb. 14. CD 1/28.

▲ **NORTH CAROLINA**—State Hy. & P. Wks. Comn., Raleigh,
N. C.—**Mount Airy Grading Co.**, Mount Airy, N. C. CA **$911,631**, est. $400,000-$500,000. grading 10.76 mi. Proj. 8121, Burke Co.;
N. C.—**Dickerson, Inc.**, Monroe, N. C. CA **$629,161**, est. $400,000-$500,000. grade, subgrade, rein. bit. con. surf. [illegible].21 mi., Proj. 3085, Bladen Co.;
N. C.—**Spotts & Co.**, Box 124, Newberry, S. C. CA **$618,150**, est. $400,000-$500,000. roadway 8.69 mi. grading, Proj. 6405, Iredell Co. Grand total $2,158,942. Bids Jan. 22, awarded Feb. 14. CD 1/28, under LB.

† **Curry Builders, Inc.**, 132 E. Bay St., Charleston, S. C., LB **$365,673.** guided missile facility, U. S. Naval Ammunition Depot, NBy-4498, CHARLESTON, S. C. P. Wks. Officer, Dpt. Navy, Naval Base, S. C. Bids Feb. 14. CD 1/18.

† **Ballenger Paving Co.**, Paris, S. C., LB **$239,000.** main parking apron repairs, Naval Air Station, NBy-10235, KEY WEST, FLA. Dpt. P. Wks. Officer, Naval Base, Charleston, S. C. Bids Feb. 14. CD 1/21.

Ford, Bacon & Davis, 805 S. Grand St., Monroe, La. CA **$194,000.** 318 kv transmission lines, Teche Station-Centerville, LOUISIANA. Central Louisiana Electric Co., Inc., Alexandria, La. Bids Jan. 29. CD 1/30.

LOUISIANA—Mississippi Bridge Auth., 422 City Hall, New Orleans,
La.—**Walter J. Barnes Electric Co.**, 432 Dakin St., New Orleans, La. CA **$389,000.** (8 bidders) constr. roadway lighting and electrical work for Greater New Orleans Bridge over Mississippi River;
La.—**Boh Bros. Constr. Co.**, 2400 Cypress St., New Orleans, La. CA **$345,253.** constr. toll plaza slab and administration bldg., foundations for Greater New Orleans Bridge over Mississippi River. Modjeski & Masters, Pan American Bldg., New Orleans, La., engrs. for both jobs. Awarded Feb. 14. CD 8/11/53.

▲ **Boh Bros. Constr. Co.**, 2400 Cypress St., New Orleans, La. CA **$1,942,000.** Contr. 179 W, Claiborne Ave. filtration plant and substructure of Claiborne Ave. pumping station, NEW ORLEANS, LA. Sewerage & Water Bd., 526 Carondelet Bldg., New Orleans, La. Bids Feb. 6, awarded Feb. 13. CD 2/12, under LB.

▲ **S. A. E. Company**, Milan, Italy, LB **$1,592,388**, 650 transmission line steel towers for new power plant, MEMPHIS, TENN. Memphis Light & Gas and Water Comn., City Hall, Memphis, Tenn. Bids Feb. 14. CD 8/26/55, under Public Buildings;
O'Brien & Padgett, 283 Scott Ave., Memphis, Tenn. LB **$151,110**, installing overhead crane; (Memphis, Tenn.);
The Crane Co., 836 S. Michigan St., Chicago, Ill., LB **$512,532**, installing high pressure valves (Memphis, Tenn.)

Brown Brothers, 1701 Central Ave., Chattanooga, Tenn. CA **$210,000.** railroad spur about 3 mi. from Illinois Central tracks to Memphis power plant, MEMPHIS, TENN. Memphis Light, Gas & Water Comn., City Hall, Memphis, Tenn. Awarded Feb. 14. CD 8/26/55, under Public Buildings.

Modern Welding Co., 1500 E. 12 St., Owensboro, Ky., CA Est. **$700,000.** natural gas sys. and incl. 12 mi. lateral line and distr. sys. to Richard City, Sequatchie and Jasper, SOUTH PITTSBURG; TENN. City, City Hall, South Pittsburg, Tenn. Harry Hendon & Assocs., 621 Stallings Bldg., Birmingham, Ala., engrs. CD 2/18.

BUILDINGS—LB & CA

▲ **Michael Development Corp.**, 2024 North Kirkwood Rd., Arlington, Va. Owner Builds. Est. **$3,500,000.** SHOPPING CENTER to be known as Golden Triangle Shopping Center, 21-acre site between Columbia Pike and Little River Turnpike, ANNANDALE, VA. Noakes & Newbauer, 1145 19 St. N.W., Wash., D. C., archts. Seward H. Mott, 2151 K St. N.W., Wash., D. C., engr. CD 4/13/54.

John W. Daniel & Co., Inc., River Road, Danville, Va., CA **$840,000.** Fairfield and Whitcomb Court SCHOOL, RICHMOND, VA. School Bd. City, City Hall, Richmond, Va. J. Binford Walford & O. Pendleton Wright, 103 E. Cary St., Richmond, Va., archts.

Mills & Jones, P.O. Box 264, St. Petersburg, Fla., CA **$879,000.** OFFICE, ST. PETERSBURG, FLA. Peninsular Telephone Co., 828 Arlington Ave. N., St. Petersburg, Fla. CD 1/31, under LB.

Chester Mabry Constr. Co., 1529 Grand Central Ave., Tampa, Fla., LB **$814,545.** Marshall HIGH SCHOOL Plant City and East Bay HIGH SCHOOL at East Bay, TAMPA, FLA. Hillsborough Co. Bd. P. Instruction, Court House, Tampa, Fla. J. A. Deminicis & Paterson, 608 Tampa St., Tampa, Fla., archts.

▲ **Foster & Creighton Co.**, 326 Union St., Nashville, Tenn. CA **$2,644,000.** 6 story, brick, rein.-con. HOSPITAL, LEXINGTON, KY. St. Joseph's Hospital, Sisters of Mercy, 1701 Dixie Hy., Lookout Heights, Ky. CD 1/28, under LB.

▲ **E. P. Wilson & Son**, American National Bank Bldg., Nashville, Tenn., CA **$1,422,100**, construct and finance, 87-unit of Capehart HOUSING, Sewart Air Force Base, SMYRNA, TENN. Procurement Officer, Sewart Air Force Base; Smyrna, Tenn. Awarded Feb. 12. CD 3/1.

MIDDLE WEST

HEAVY CONSTRUCTION—BA

STATE HIGHWAY LETTINGS

BRIDGES
March 1 Illinois

STREETS AND ROADS
March 1 Illinois

▲ **O., Cincinnati**—BA 3/13—City, City Hall, electric sub-station at California Works, $800,000; raw water pumping station at Mt. Washington Pumping Station, $320,000; Kellogg Ave. and Western Hills Pumping Station and reservoir, on Glenway Ave. $675,000. Black & Veatch, 4706 Broadway Kansas City, Mo. engrs. CD 12/12.

Ind., New Castle—BA 3/14—Bd. P. Wks. & Safety, City Hall, rein.-con. sewage treatment plant. $400,000. Henry B. Steeg Assocs., P. O. Box 5052, Station A, Indianapolis, consult. engrs. CD 8/23/54.

† **Wis., Madison**—DORMITORIES—BA 3/19—U. S. Eng., 475 Merchandise Mart, Chicago 54, Ill. two FY 56 airmen's dormitories, Truax Field, Serial No. ENG-11-032-57-11. Extended date. CD 2/14.

BUILDINGS—BA

▲ **Ind., Indianapolis** — OFFICE — BA 3/5 — American United Life Insurance Co., Fall Creek Blvd. at Illinois St., 4 story, structural steel frame masonry, rein.-con. office bldg. $1,500,000. McGuire & Shook, 1400 Fletcher Trust Bldg., archts. J. M. Rotz Eng. Co., 1919 N. Meridan St., mech. engr. CD 8/13.

Wis., Bayside—SCHOOL—BA 3/5—Joint School Dist. No. 2, 7241 N. Longacre Rd., Milwaukee, Zone 17, No. 3 Bayside School addn. $950,000. Plans deposit $50. Fritz von Grossmann, 5455 W. Burleigh St., Milwaukee, archt. CD 2/18.

▲ **Wis., Appleton** — HOSPITAL — BA 3/7 — Outagamie Co., 3 story, bsmnt., 1,200,000 cu. ft., rein.-conc., brick hospital addn., alterations. $2,200,000. Geo. Narovec, 520 E. Wisconsin Ave., engr. CD 9/28/55.

▲ **O., Fremont**—BA 3/22—Fremont Bd. Educ., 500 Dominion Bldg., high school. $1,800,000. Extended date. McLaughlin & Keil, 500 Dominion Bldg., Lima, archts.

▲ **Wis., Rhinelander**—HIGH SCHOOL—BA 3/19—Bd. Educ., Rhinelander, 1 and 2 story high school. $2,650,000. Plans deposit $50. R. N. Le Vee & Assocs., 1000 W. College Ave., Appleton, engrs.

HEAVY CONSTRUCTION—LB & CA

J. B. Savage Co., 770 Woodbury Ave., Columbus, O., LB **$414,454**, Front St. Bridge over railroad tracks of Pennsylvania and New York Central RR's COLUMBUS, O. City, City Hall, Columbus, O. CD 12/18/51.

Fred Haddad, Inc., 3819 Woodridge Rd., Cleveland Heights, O., LB **$73,882** (12 bidders) 12 in. water mains in Liberty Rd., SOLON, O. Solon Village, 6315 S. O. M. Center Rd., Solon, O. Bids Feb. 4.

▲ **ILLINOIS**—Illinois State Toll Hy. Comn., 20 N. Wacker Dr., Chicago, Zone 6,
Universal Delta Co., Hammond, Ind. CA **$1,332,045.** 637,000 lin. ft., Contract GN13, guard rail for entire project. Bids Jan. 3, awarded Jan. 25. CD 1/8, under LB.

▲ **ILLINOIS**—Illinois State Toll Hy. Comn., 20 N. Wacker Dr., Chicago, Zone 6,
American Bridge Div., U. S. Steel Corp., 208 S. La Salle St., Chicago, Ill. CA **$4,174,730.** Contr. ST-8, furnishing, erecting structural steel for bridge over Milwaukee R.R.'s Bensenville yards on Tri State. Awarded Feb. 8. CD 1/28, under LB.

▲ **ILLINOIS**—Illinois State Toll Hy. Comn., 20 N. Wacker Dr., Chicago, Zone 6,
American Bridge Div., U. S. Steel Corp., 208 S. La Salle St., Chicago, Ill. CA **$1,313,227.** Contr. SNI-2, furnishing structural steel for 6 bridges. Bids Jan. 17, awarded Jan. 25. CD 1/22, under LB.

Arcole Midwest Corp., 3225 Main St., Evanston, Ill., LB **$309,717.** b. conc. paving, curbs and gutters, PARK RIDGE, ILL. City, City Hall, Park Ridge, Ill. Consoer, Townsend & Assocs., 360 E. Grand Ave., Chicago, Ill. engrs.

MICHIGAN—State Hy. Dpt., Stevens T. Mason Bldg., Lansing,
Bethlehem Steel Co., 701 E. Third St., Bethlehem, Pa., LB **$121,283** and **$77,040.** 842,240 lb. structural steel for hy. bridge on relocation of M-60 over old US-12 and Co.; LB $215,250. 1,050,000 lb. structural steel New York Central R.R. tracks 2 mi. west of Jackson, Jackson Co.; LB **$215,250.** 1,050,000 lb. structural steel for hy. bridge grade separation on Norton Glade Expressway over Grand Trunk R.R. west limits of Muskegon, Muskegon Co.; LB **$79,166.** structural steel for hy. bridge Detroit Toledo Expressway over Woodruff Rd. 0.25 mi. north of Rockford City limits, Wayne Co. Bids Jan. 23. CD 1/17.

MICHIGAN—State, Director Purchases, Lewis Cass Bldg., Lansing,
Mich.—**R. C. Mahon Co.**, P. O. Box 4666, Detroit 34, Mich. CA **$187,460.** 910,000 lb. structural steel for hy. bridge US-23 relocation over Raisin River 1 mi. south of Dundee, M B2 of 58-4-9, Monroe Co.
Mich.—**Bethlehem Steel Co.**, 701 E. Third St., Bethlehem, Pa. CA **$77,040.** 535 lb structural steel for hy. bridge on relocation of M-60 over US-12 2 mi. northwest of Jackson, B10 of 38-1-14, Jackson C[illegible] Bids Jan. 23. CD 1/9.

BUILDINGS—LB & CA

Campus Constr. Co., 24471 Fairmount Blvd., Cleveland 24, O. CA Est. **$800,000.** HEALTH CLUB and swimming pool, Northfield Rd., WARRENSVILLE HEIGHTS, O. Sidney Hill Suburban Health Club, Hollenden Hotel, Cleveland 14, O. CD 1/23.

E. Elford & Son, Inc., 555 S. Front St., Columbus, O., CA **$960,000** general contract DORMITORY and FIELD HOUSE, WORTHINGTON, O. Pontefical College Josephinum, Worthington, O. Louis F. Karlsberger, 24 E. Weber Rd., Columbus, O., archt.

Witter-Gaddis Corp., Rte. 30, Schererville, Ind. LB **$995,000.** municipal garage, 7th and Massachusetts St., GARY, IND. City, Gary, Ind. CD 2/15, under LB.

▲ **Heftler Constr. Co.**, 9374 Brighton Way, Beverly Hills, Calif. LB **$9,694,000.** (3 bidders) 680-unit Capehart HOUSING, I.F.B. 12-617-57-50, Bunker Hill Air Force Base, PERU, IND. Contracting Office, Bunker Hill Air Force Base, Peru, Ind. Bids Jan. 29. CD 12/20.

▲ **Gust K. Newberg Constr. Co.**, 2040 N. Ashland Ave., Chicago, Ill. CA **$2,000,000.** ABBOTT HALL addn., 710 N. Lake Shore Dr., CHICAGO, ILL. Northwestern University, 619 N. Clark St., Evanston, Ill. Bids Jan. 22. CD 12/31.

H. B. Barnard, 38 S. Dearborn St., Chicago, Ill., CA **$632,000.** HOSPITAL, 5841 S. Maryland Ave., CHICAGO, ILL. University of Chicago, 5801 S. Ellis Ave., Chicago, Ill. Schmidt, Garden & Erickson, 104 S. Michigan Ave., Chicago, Ill., archts.

Walsh Bros., Inc., 140 S. Dearborn St., Chicago, Ill., LB **$577,821** central HEATING PLANT, 31 and Sacramento Sts., CHICAGO, ILL. City, City Hall, Chicago, Ill. Bids Feb. 8. CD 1/30.

Worsham-Midwest Corp., 3557 W. Peterson Ave., Chicago, Ill., CA **$300,000.** 1 story, 30,000 sq. ft. WAREHOUSE and OFFICE, 3637 N. Talman Ave., CHICAGO, ILL. Kirsch Co., Sturgis, Mich. International Assocs., 2535 W. 6 Ave., Denver, Colo., archts.

Johnson Constr. Co., Godfrey, Ill., CA **$463,268** general contract HIGH SCHOOL, northeast corner junction of U.S. 67 and S.B.I. Route 16 4 mi. north of Brighton, PIASA, ILL. Community Consolidated Unit School Dist. No. 9 of Macoupin Co., Troy Meyer, supt. Schools, Piasa, Ill. Mantle & Gilbert, Architects & Engineers, 7A Public Square, Belleville, Ill., archts.

Klefstad Eng. Co., 4444 W. Montrose Ave., Chicago, Ill., CA **$300,000.** 1 story, 35,000 sq. ft., brick FACTORY and OFFICE, River Rd. and Lawrence Ave. SCHILLER PARK, ILL. Peterson Products, Inc., 1735 W. Armitage Ave., Chicago, Ill. CD 11/2, under CA (Correction-contractor).

▲ **Buffalo Grove Homes Builders, Inc.**, Hagerstrom Park, Wheeling, Ill. Own Forces. **$10,000,000.** 500 HOMES, Buffalo Grove Subdivision, WHEELING, ILL.

▲ **Selzer-Ornst Co.**, 6222 W. State St., Wauwatosa 13. CA Est. **$2,000,000.** 1 story, irreg., 350x500 ft., concrete, steel, brick factory addn., MILWAUKEE, WIS. Caterpillar Tractor Co., 3333 S. Chase Ave., Milwaukee, Wis. Chas. Nagel & Assocs., 1615 Underwood Ave., Wauwatosa 13, Wis., archts. CD 2/14.

McLouth Steel Corp., 300 South Livernois St., Detroit, Mich. Owner Builds. **$195,000.** PLANT addn., Livernois St., DETROIT, MICH.

▲ **Greenspan Building Co.**, Fred E. Greenspan, 16194 Wyoming St., Detroit, Mich. Owner Builds. **$15,000,000.** Lake Pointe Village development, 1,200 brick HOMES, PLYMOUTH, MICH.

WEST OF MISSISSIPPI

HEAVY CONSTRUCTION—BA

STATE HIGHWAY LETTINGS

BRIDGES
March 5 Iowa

STREETS AND ROADS
March 5 Iowa

BUILDINGS—BA

▲ **Tex., Beaumont**—SCHOOL—BA 3/6—Beaumont Ind. School Dist., Beaumont, 1 story, 80,000 sq. ft., masonry Paul Lawrence Dunbar Junior High School for Negroes. $1,000,000. **Bid date changed.** George L. Ingram, 690 Hazel St., archt. Wm. Broadus, Michael Barr & H. L. Ingram, 3410 N. Anderson St., consult. engrs. CD 2/15.

▲ **Iowa, Davenport**—HIGH SCHOOL—BA 4/15—Catholic Diocese of Davenport, Most Rev. Ralph L. Keyes, Bishop and Rt. Rev. Msgr. Thomas J. Feeney, pastor, Sacred Heart Cathedral, Davenport, high school, Marquette St. $2,000,000. William F. Bernbrock, 1630 5 Ave., Moline, Ill., archt. CD 8/30.

▲ **S. D., Rapid City**—SCHOOL—BA 4/15—Bd. Educ., Rapid City, South Junior High School. $1,200,000. Ewing & Forrette, Security Bldg., Rapid City, archts. CD 8/15.

BUILDINGS—LB & CA

Okla., Ada—STORAGE SILOS—Ideal Cement Co., Denver National Bank Bldg., Denver, Colo., soon lets contract, 4 concrete cement storage silos. $100,000. Vern E. Allen Co., 33 N. LaSalle St., Chicago, Ill., engr.

HEAVY CONSTRUCTION—LB & CA

▲ **NORTH DAKOTA**—State Hy. Dpt., Bismarck, N. D.,

N. D.—**Walter D. Giertson Co.**, 900 Glenwood Ave., Minneapolis, Minn. LB **$1,676,245.** structural and incidental 0.246 mi. Interstate Rte., I-01-8 (1), Cass Co.; N. D. and Clay Co., Minn.;

N. D.—**Northern Improvement Co.**, 633 1 Ave N., Fargo, N. D., and **Schultz & Lindsay Constr. Co.**, 320½ Broadway, Fargo, N. D. LB **$781,136.** structural and incidental 0.123 mi. Interstate Rt. 1, I-ING-01-7 (1), FA I, Stutsman Co.;

N. D.—**Swingen Constr. Co.**, 900 N. 6 St., Grand Forks, N. D. LB **$214,524.** structural and incidental 0.023 mi. Interstate Rt. 1, I-01-7 (4) FAI, Barnes Co.;

N. D.—**Megarry Brothers,** St. Cloud, Minn. LB **$209,101.** structural and incidental 0.02 mi. Fed. Aid Interstate No. 1, I-01-7 (5) FAI, Barnes Co. Bids Feb. 15. CD 1/30.

▲† **Oahe Constructors**, 900 New York Bldg., St. Paul, Minn., LB **$1,872,800** (4 bidders) Stage V, outlet works, control superstructure, Oahe Reservoir Proj. near Pierre, Inv. 25-066-57-61, SOUTH DAKOTA. U. S. Eng., 1709 Jackson St., Omaha, Neb. Bids Feb. 14. CD 1/17.

▲† **Coker Constr. Co.**, 430 WOW Bldg., Peter Kiewit & Sons, 1024 Omaha Natl. Bank Bldg., and **Condon-Cunningham**, 4229 Lafayette St., all Omaha, Neb. CA **$14,434,000.** Fremont Canyon Power Plant and power conduit, Missouri River Basin Proj., Spec. DC 4801, WYOMING. Bureau Reclamation, Dpt. Interior, Glendo, Wyo. Bids Jan. 31, **awarded Feb. 14.** CD 2/5, under LB.

COLORADO—State Hy. Dpt., 4201 E. Arkansas St., Denver,

Schmidt Constr. Co., Box 175, Arvada, Colo. CA **$328,215**, est. $350,765. grading, structures 4.316 mi. Colo. Proj. S 0087 (2), Boulder Co. Bids Feb. 14. CD 2/7.

COLORADO—State Hy. Dpt., 4201 E. Arkansas St., Denver,

Baab Constr. Co., Greeley, Colo. CA **$99,758**, est. $98,820. grading, structures 0.749 mi. Colo. Proj. S 0024 (13), Weld Co. Bids Feb. 15. CD 2/11.

COLORADO—State Hy. Dpt., 4201 E. Arkansas St., Denver,

Northwestern Engineering Co., 6000 Colorado Blvd., Denver, Colo. CA **$694,273**, est. $712,547. c. conc. 5.209 mi. Colo. Proj F 006-1 (17), Weld Co. Bids Feb. 13. CD 2/7.

▲† **Rob. E. McKee General Contractor, Inc., Box 1748,** Albuquerque, N. M. CA **$1,054,000,** airmen's mess hall and dormitories, Kirtland Air Force Base, ENG-29-005-57-48, ALBUQUERQUE, N. M. U. S. Eng., Box 1538, Albuquerque, N. M. CD 12/18, under LB.

† **Atomic Energy Comn., Procurement & Contg. Sec.**, Los Alamos, N. M. cancelled bids to have been opened Jan 30, constr. component test facility TA-46, Phase II, LOS ALAMOS, N. M. Will re-advertise. CD 1/23.

BUILDINGS—LB & CA

C. F. Haglin & Sons Co., 123 Bryant Ave. N., Minneapolis, Minn. LB **$847,000. (12 bidders.)** general mechanical and electrical work 7 story, bsmnt., MEDICAL CENTER, 66 St. and France Ave., EDINA (P. O. MINNEAPOLIS), MINN. Southdale Realty Co., R. J. Crabb, vice pres., 3500 W. 66 St., Edina, Minn. V. Gruen & Assocs., 700 Nicollet Ave., Minneapolis, Minn., archts. Bids Feb. 7.

▲ **E. I. duPont deNemours & Co.**, duPont Bldg., Wilmington, Del. Own Forces. **$10,000,000.** cellophane PLANT, near TECUMSEH, KAN.

▲ **Geo. B. Emery, Jr.**, 2133 Potomac Dr., Topeka, Kan. CA **$9,696,944.** construct and finance 640 HOUSING units (Capehart), Forbes Air Force Base, TOPEKA, KAN. Purchasing & Contg. Office, Forbes Air Force Base, Topeka, Kan. Bids Jan. 25, **awarded Feb. 15.** CD 1/31, under LB.

▲ **Oklahoma Gas & Electric Co.**, 321 N. Harvey St., Oklahoma City, Okla. Own Forces. **$26,800,000.** 236 kw. turbine and generator at Mustang POWER PLANT, near OKLAHOMA CITY, OKLA.

Ponsford Bros., Box 1412, El Paso, Tex. CA **$478,110.** CHURCH PLANT, EL PASO, TEX. First Presbyterian Church, El Paso, Tex. Carroll & Daeuble, 1001 E. Yandell Blvd., El Paso, Tex., archts. Landauer & Shafer, 4801 Lemmon St., Dallas, Tex., engr. Bids Nov. 21. CD 3/9/51.

▲ **T. D. Howe Constr. Co., Inc.**, P. O. Box 19027, Houston, Tex. CA est. **$1,000,000.** constr. Houston DISTRIBUTING HOUSE addn., HOUSTON, TEX. Western Electric Co., Inc., 195 Broadway, New York 7, N. Y. CD 1/18.

Chambers Constr. Co., 1954 Temple Dr., Houston, Tex. CA **$163,984.** TERMINAL, HOUSTON, TEX. Westheimer Transfer & Storage Co., 2205 McKinney St., Houston, Tex. Bids Nov. 2 rejected. L. Gabert & W. J. Wisdom, 1315 Bell St., Houston, Tex., archts. L. M. Gabert, Jr., & J. L. Davis & Assocs., 3400 Montrose St., Houston, Tex., engrs. CD 7/25/51.

Manhattan Constr. Co., 1811 Crawford St., Houston, Tex. CA **$375,000.** 60,300 sq. ft. WAREHOUSE, 10,500 sq. ft. OFFICE, Broad St. between Gulf Freeway and Telephone Rd., HOUSTON, TEX. Owner, c/o F. Woodrow Bush, 827 Ridge St., Houston, Tex., archt. CD 2/14.

▲ **Lippert Bros.**, 1909 S. Cherokee St., Denver, Colo. CA **$1,004,443**, 3 story. 416-student ALLISON HALL (dormitory) FORT COLLINS, COLO. Colorado A & M College, Campus, Fort Collins, Colo. Bids Feb. 8, awarded Feb. 11. CD 2/15, under LB.

FAR WEST

HEAVY CONSTRUCTION—BA

STATE HIGHWAY LETTINGS

BRIDGES
March 12 Washington

STREETS AND ROADS
March 12 Idaho

▲ **Calif., Norco**—BA 5/13—Norco Community Services Dist., 1731 Park Ave., WW., incl. pumping equipment, electrical equipment, bldgs., water tanks, pipe lines and appurtenances. Over $1,000,000. Francis H. Bulot & Raymond J. Quigley, 1323 N. Broadway, Santa Ana, Calif., consult. engrs. CD 1/31.

HEAVY CONSTRUCTION—LB & CA

▲ **McDonald, Kruse and Pacific Allied,** 7605 Wheatland Ave., Sun Valley, Calif., LB **$1,739,305**, est. $3,000,000 (7 bidders) Proj. No. 13, constr. Inglewood Ave. Century Blvd. Storm Drain Project, LOS ANGELES, CALIF. Los Angeles Co. Flood Control Dist., 2250 Alcazar St., Los Angeles, Calif. Bids Feb. 15. CD 1/18.

BUILDINGS—LB & CA

▲ **Sellen & Hansen, Inc.**, 228 9 Ave. N., Seattle, Wash., CA **$1,115,350.** 1 story and 2 story, 170,000 sq. ft. steel frame North SERVICE CENTER for City Light, SEATTLE, WASH. City, Bd. P. Wks., County-City Bldg., Seattle 4, Wash. Bids Feb. 6, **awarded Feb. 13. CD 2/11, under LB.**

William D. Greschner Const Co., 1108 E. Washington Ave., Santa Ana, Calif., CA **$875,852**, est. $1,250,000 (10 bidders) 78,200 sq. ft., frame, stucco and concrete JUNIOR HIGH SCHOOL 3, ANAHEIM, CALIF. Anaheim School Dist., Anaheim, Calif. Smith, Powell & Morgridge, 208 W. 8th St., Los Angeles, Calif., archts. Bids Feb. 8. CD 1/25.

Robert L. Wilson, 850-29th St., Oakland, Calif. LB **$692,600.** (8 bidders) 5 story, rein.-con. self parking ramp type GARAGE, BERKELEY, CALIF. City, City Hall, Berkeley, CD 1/31, under LB

▲ **M. J. Brock & Assoc.**, c/o Dreyfuss & Davis, archts., 2127 "J" St., Sacramento, Calif., cancelled bids to have been opened Jan. 31, 437,000 sq. ft. bldg. SHOPPING CENTER and parking area, Larchmont Village Subdivision, NORTH HIGHLANDS, CALIF. Est. **$6,000,000-$8,000,000.** **(Correction**—no such project). CD 1/15.

Nylin P. Herd, 1317 San Diablo Ave., Santa Ana, Calif., LB **$901,565.** (14 bidders) 18 classroom, frame, stucco, Yorba JUNIOR HIGH SCHOOL PROJ. 1, ORANGE, CALIF. Orange Unified School Dist., 525 N. Shaffer St., Orange, Calif. Bids Feb. 13. CD 1/29

McDonald Bros., 2639 S. La Cienega Blvd., Los Angeles, Calif. CA **$994,000.** 71 DWELLINGS, 1,434 to 1,440 sq. ft. Barrydale St., Willow St., Rama St., Sunkist Ave., Sandspring Dr., Sandra Ave., Orange Ave., PUENTE, CALIF. Highland Village 11, 2639 S. LaCienega Blvd., Los Angeles, Calif. CD 1/23.

Beacon Constr. Co., 1745 Filbert St., San Francisco, Calif., LB **$825,000,** est. $907,250. (6 bidders) 5 story, bsmnt. STATE OFFICE BLDG. No. 2, imprvs., alterations, SACRAMENTO, CALIF. Calif. Div. Architecture, 1120 N. St., Sacramento, Calif. CD 1/23.

▲ **Ralph T. Viola,** 1626 Pine St., Oxnard, Calif., CA **$1,177,000** (5 bidders) wood frame, brick veneer Avenue Junior High School, VENTURA, CALIF. Ventura Union High School Dist., 295 Arcade Dr., Ventura, Calif. Bids Feb. 13. CD 1/25.

▲ **Gregory-Sequoia Developers,** 8440 Melrose Place, Los Angeles 46, Calif. Owner Builds **$941,850.** 1,330 sq. ft., 6-room, 69 DWELLINGS Lots 1-69 incl. Tract 15860, **$423,150.** 1,389 sq. ft. 6 room 31 stucco DWELLINGS Lots 1-31 incl., tracts 19565. WEST COVINA, CALIF. CD 2/1.

CANADA

HEAVY CONSTRUCTION—BA

▲ **Ont., Toronto**—HOUSING—BA 3/14—Central Mortgage & Housing Corp., 40 Eglinton Ave. E., Toronto; Housing Division, Ontario Dpt. of Planning & Development, Parliament Bldgs., Toronto, and City of Toronto, City Hall, Toronto, low-cost housing, incl. two high-rise apartments and 148 housing units, all rein.-con., Regent Park South. $10,000,000. Plans deposit $100 each set. Page & Steele, 52 St. Clair Ave. W., archts, for apartment block. J. E. Hoare, Jr., 481 Eglinton Ave. W., archt. for row housing. CD 7/27/53.

▲ **Alta., Edmonton**—OFFICE—BA 3/15—Northwestern Utilities Ltd., 10124 104 St., 8 story, bsmnt., 56x250 ft., steel, masonry office bldg., 104 St. south of Jasper Ave. $4,000,000. Plans deposit $200. Rule, Wynn & Rule, 11422 Jasper Ave., archts. CD 6/4.

BUILDINGS—SLC

▲ **Que., Sherbrooke**—PLANT—Combustion Engineering Superheater Ltd., 731 Galt St., soon lets contract superstructure for two bays each 80x320 ft., rein.-con. frame, structural steel frame, brick plant exten., Roy St. $1,000,000. J. Charles Day, 1434 St. Catherine St. W., Montreal, engr. Erwin Bamberger, 5333 Pare St., Montreal, archt.

HEAVY CONSTRUCTION—LB & CA

▲ **Canadian Dredge & Dock Co. Ltd.**, 60 Harbor St. Toronto, Ont., CA **$3,245,450** dredging approaches at Iroquois Lock in International Rapids Section of Seaway near Iroquois, ONTARIO St. Lawrence Seaway Auth. No. 2 Temporary Bldg., Ottawa, Ont. Bids Feb. 5, awarded Feb. 13. CD 2/13, under LB.

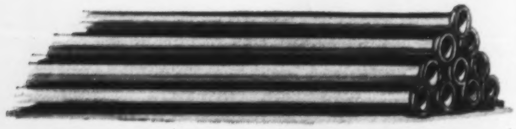
BUILDINGS—LB & CA

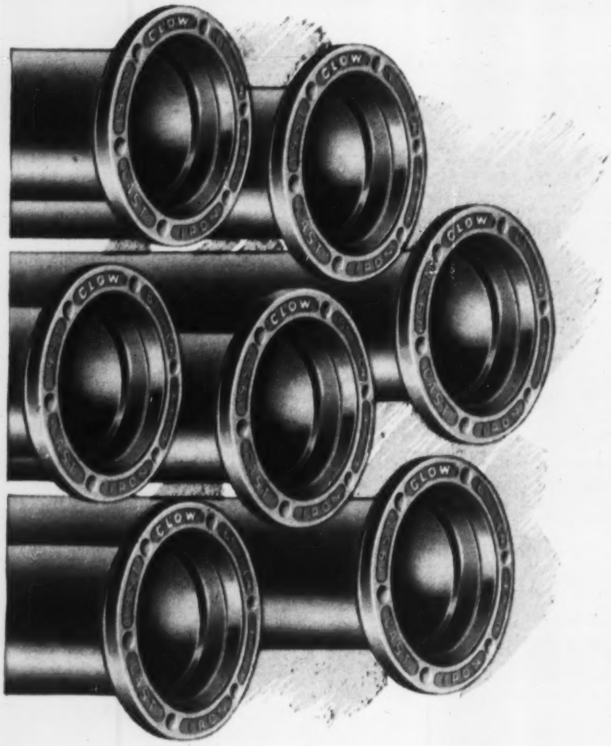
▲ **James Kemp Constr. Ltd.**, 121 Vansitmart St., Box 52, Postal Station "B", Hamilton, Ont., LB **$1,617,000** (3 bidders) 3 story bsmt., 173x364 ft. granite, limestone FEDERAL BLDG. Clarence St., KINGSTON, ONT. Dpt. P. Wks., Hunter Bldg., Ottawa, Ont. Bids Feb. 13. CD 1/11.

(Proposal Advertisement see pp. 105 to 107)

take advantage of the plus factors when you specify

UNDERGROUND WATER PIPE





Experienced men who specify and install underground water pipe take advantage of the plus factors when they specify cast iron pipe.

Take the pressure plus factor. Minimum wall thickness Clow cast iron pipe (ASA A21.6 Class 22) is rated for at least 250 psi working pressure in diameters 10″ and smaller.

What does this mean? It means that cast iron pipe is rated safely above the minimum pressure requirements for municipal water service, and can be specified to the full ASA rated working pressure. This is because of the inherent strength of cast iron pipe . . . beam strength . . . compressive strength . . . bursting strength . . . all scientifically calculated with ample factor of safety on the basis of sound engineering practice and the result of actual service records.

To get the best advantage of the plus factors for your system, invite a Clow man in to discuss your requirements when pipe first enters your plans.

JAMES B. CLOW & SONS, Inc.

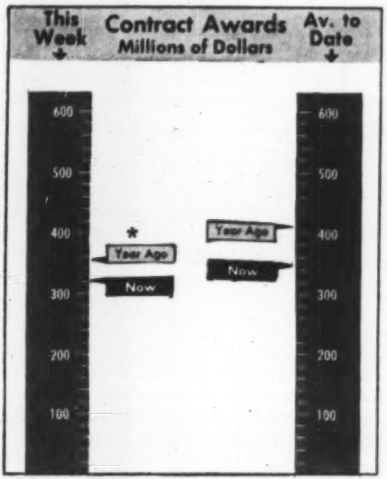
201-299 N. Talman Avenue • Chicago 80, Illinois

Subsidiaries: Eddy Valve Company, Waterford, New York • Iowa Valve Company, Oskaloosa, Iowa

SINCE 1878

Construction Scoreboard

Activity this Week



* 4-day week.

AMOUNT OF CONTRACTS LET

By Ownership	This Week* (millions)	Cum. 9 wks 1957 (millions)	Cum. 9 wks Chge %
Federal	$34.2	$360.6	+7
State and Municipal	75.6	1,141.4	+11
Total Public	109.8	1,502.0	+10
Total Private	211.4	1,597.7	−32
U. S. Total	$321.2*	$3,099.7	−17
By Type of Work			
Waterworks	$2.3	$55.0	+16
Sewerage	5.1	70.6	−50
Bridges	11.2	103.8	+7
Highways	20.0	470.1	+36
Earthwork, Waterways	16.5	203.7	+87
Buildings:			
Public, Excl. Housg.	36.0	365.6	+15
Public Housing	1.9	44.0	−43
Private Housing	79.6	539.8	−53
Commercial	68.2	219.7	−49
Industrial	61.4	691.6	+1
Unclassified	19.0	335.8	+4
U. S. Total	$321.2*	$3,099.7	−17

*4-day week

NOTE: Minimum size projects included are: Waterworks and waterways, $44,000; other public works, $73,000; industrial buildings, $93,000; other buildings, $344,000.

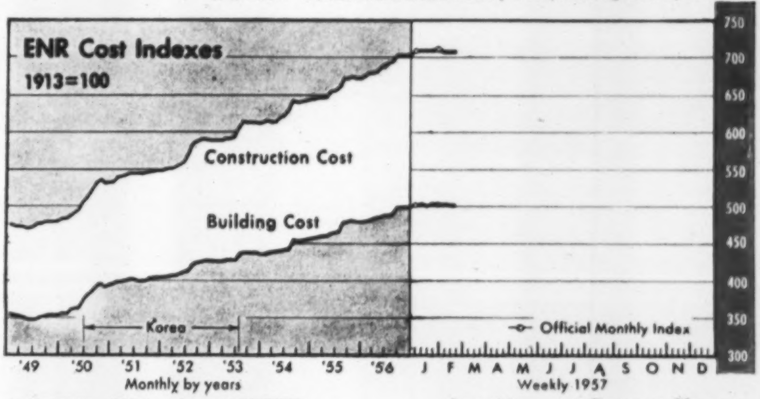
NEW CAPITAL FOR CONSTRUCTION

	Week of Feb. 21 (millions)	Cum. 8 wks 1957 (millions)	Cum. 8 wks Chge '56-'57 %
Corporate Securities	$227.4	$981.7	+194
State and Municipal:			
All Except Housing	93.5	799.3	+28
Housing	16.5	16.5	−19
Federal Loans	1.4	17.6	+17
Federal Aid	...	...	...
Total Nonfederal	$338.8	$1,815.1	+83
Federal Appropriations:			
In U. S.	...	...	...
Outside U. S.	...	...	...
Total New Capital	$338.8	$1,815.1	+83

Cost Indexes as of Now

ENR INDEXES (1913 = 100), 20-cities' average	Week of Feb. 21 1957	% Change from Jan. 24 1957	% Change from Feb. 23 1956
Construction Cost	708.67	−0.02	+4.2
Building Cost	501.40	−0.2	+3.8

To convert above indexes to 1926 = 100: Divide Construction Cost by 2.080; Building Cost by 1.850.
1949 = 100: Divide Construction Cost by 4.770; Building Cost by 3.518.



BACKLOG OF PROPOSED HEAVY CONSTRUCTION	Jan. 31 1957 (millions)	Percent Change from last Month	Percent Change from last Year
Total U. S. (ENR reported)	$105,406	+ 1.1	+ 10.8
By ownership—			
Private	44,320	+ 1.6	+ 11.8
State and Municipal	47,553	+ 1.2	+ 11.2
Federal	13,533	− 0.8	+ 6.1
By Type of Work—			
Waterworks	2,251	+ 1.0	+ 13.3
Sewerage	3,221	+ 0.2	+ 8.1
Bridges	3,078	+ 4.2	+ 13.4
Highways	13,113	+ 3.5	+ 15.2
Earthwork, Waterways	11,357	− 0.5	+ 0.8
Public Buildings	18,816	− 0.4	+ 13.7
Industrial Buildings	16,205	+ 0.4	+ 10.4
Commercial Buildings	18,727	+ 2.8	+ 18.9
Unclassified, Private	9,388*	+ 1.1	+ 1.8
Unclassified, Public	9,249	+ 0.1	+ 7.2

* Includes private bridges, $88 million

FLOW OF NEW PROJECTS INTO THE BACKLOG	1957 Jan. (millions)	1957 1-month (millions)	Percent Change from last Month	Percent Change from last Year Cum.
Total U. S. (ENR reported)	$2,581	$2,581	+ 47.2	− 17.2
By Ownership—				
Private	1,325	1,325	+ 56.7	+ 27.2
State and Municipal	1,197	1,197	+ 52.3	− 37.4
Federal	59	59	− 51.3	− 63.7
By Type of Work—				
Waterworks	42	42	+ 15.8	+162.0
Sewerage	73	73	+ 22.0	+160.9
Bridges	147	147	+677.6	+258.3
Highways	591	591	+20,505.5	+2,239.1
Earthwork, Waterways	13	13	− 95.6	− 90.4
Public Buildings	308	308	− 6.9	− 18.5
Industrial Buildings	417	417	− 3.2	− 14.1
Commercial: Mass Housing	526	526	+304.8	+227.4
Other Building	239	239	+ 5.5	+ 12.2
Unclassified, Private	143	143	+145.4	− 21.6
Unclassified, Public	82	82	− 46.2	− 94.3

FLOW OF PROJECTS OUT OF BACKLOG INTO CONTRACTS	1957 Jan. (millions)	1957 1-Month (millions)	Percent Change from last Month	Percent Change from last Year Cum.
Total U. S. (ENR reported)	$831	$831	+0.2	+9.7
By Ownership—				
Private	282	282	−45.0	−18.5
State and Municipal	422	422	+73.9	+53.0
Federal	127	127	+70.8	−6.6

Congress Seeks Cure for Lease-Purchase

Congressional investigators are having trouble finding what's wrong—let alone a cure—in their diagnosis of the government's sick lease-purchase program for acquiring federal buildings (ENR Feb. 21, p. 43).

After two days of hearing government officials, building contractors and labor union spokesmen last week, Sen. Pat McNamara's public works subcommittee looking into the $700 million program has decided to call Treasury Secretary George Humphrey to the witness stand soon, to try to clear up just why the government suspended all lease-purchase negotiations "temporarily."

When the decision to shelve the program was announced, General Services Administration Director Franklin Floete, in charge of the bulk of the program, said it was being suspended to combat inflationary trends in the construction industry.

Not so, said Associated General Contractors' Director Robert W. Long and AFL-CIO building trades' George D. Riley and Cornelius Gray at last week's hearing. Long said there are actually "patches" of unemployment in major cities, such as Detroit, Kansas City, and Denver. He also testified that private investors, who put up the money for the lease-purchase projects, say loans are available "at a competitive price."

Long and the union witnesses said one reason why private investors have not come forward to bid on the 149 Congressionally approved projects which GSA and the Postoffice Department suspended is that the interest rate of 4% that the government pays for the private financing is too low. This is a reason previously advanced by critics of the program, including some government officials.

Floete himself, testifying before the McNamara group, said he thought it would have enjoyed more success than it did—two bids accepted out of 21 offerings on 19 projects—if the interest rate had been "in the neighborhood of 5%."

Another reason advanced for the program's failure at McNamara's hearings was simply the cumbersomeness of the lease-purchase paperwork. If a private property owner builds for, or rents to, the government, he signs a relatively simple form, Assistant Postmaster General Ormonde A. Kieb testified. But the lease-purchase agreement, under which the private investor finances construction by a contractor and leases the property to the government for 50 years before turning over title, "is 8 pages long, plus a 3 page bid and performance bond, a 16 page ground lease, 11 page architectural and engineering contract, 3 page bid advertisement, 1 page cover letter, and agreement to build, lease, and convey title."

The only agreement between government and private witnesses at the hearings was that the government should abandon lease-purchase entirely and go back to straight rentals and purchasing through direct Congressional appropriations. This is what a lease-purchase repeal bill introduced by Rep. Robert Jones would do.

Jones, chairman of a House public works subcommittee, also is holding hearings this week. His witnesses will include government officials and members of Congress.

Whatever comes of the Congressional hearings, something must be decided by mid-summer. That's when the lease-purchase authority legally expires. Despite Jones' repeal attempt, Senate staffers think the bill will be renewed, with pressure on the Administration to raise interest payments.

Meanwhile, Sen. Francis Case a member of McNamara's committee, has his own solution: Set up a federal financing agency to handle the floating of revenue bonds to finance both government buildings and public schools.

KEY FIGURES in controversy are AGC's Robert W. Long (left) and Sen. Pat McNamara.

Mountain Highway Project Boosts California Budget

The California Division of Highways has come up against the problem of high cost of mountain road construction.

The Highway Commission has had to vote $1.8 million above a $3.4 million budget allocation for a 5.4 mile road on U. S. 40 on the eastern slope of the Sierra Nevada Mountains.

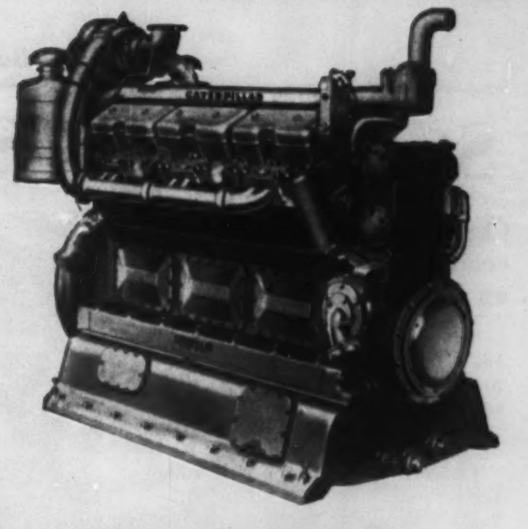
Bids for the project were opened Oct. 31 and the lowest bid of $5.1 million exceeded the division's estimate of $3 million by some $2 million.

The contractors had given a great deal of weight to the restricted working space in the narrow canyon, to the anticipated extra costs in handling traffic, and to construction hazards involved because of an adjacent power company flume and Southern Pacific Railroad tracks.

Because of the wide difference between the estimate and the offers, all bids were rejected Nov. 14. After a thorough restudy of the project the Highway Division recommended additional funds and a new bid call was issued.

(*B&F continued on page 96*)

Caterpillar offers a completely modern power line-up, ranging in capacity up to the 650 HP (maximum output capacity) D397 with Turbocharger



6 REASONS WHY IT PAYS TO USE MODERN HEAVY-DUTY CAT* DIESELS IN YOUR CONSTRUCTION EQUIPMENT!

1 Compact and rugged, they feature the four-cycle design which provides a smooth, foul-free operation.

2 Maintenance is minimum. The fuel system requires no adjustments. There are no cylinder ports to clean.

3 Exclusive Caterpillar single-orifice fuel injection valves permit use of a wide range of fuel oils including low-cost No. 2 furnace oil without fouling, even when idling.

4 Manufactured by modern techniques from modern materials, Cat Diesels are built to deliver long life in any application.

5 No Caterpillar Engine ever becomes a "parts orphan." No matter how long it's in use, you can always get parts for it.

6 Your Caterpillar Dealer backs his products with prompt service, any time and anywhere. He has the trained mechanics to do the job fast and right. Leading manufacturers can supply these compact, modern units in the equipment they build. Either as original or replacement power, there are hundreds of Caterpillar Diesel arrangements—one to fit your requirements exactly. Ask your Caterpillar Dealer to show you how Cat power can pay off for you!

Caterpillar Tractor Co., Peoria, Illinois, U.S.A.

CATERPILLAR*

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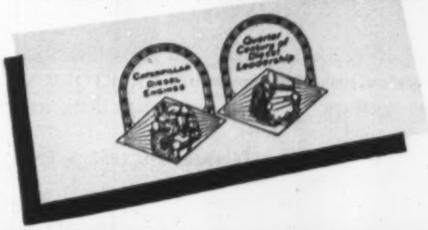

Caterpillar Diesel Engines
Quarter Century of Diesel Leadership

DIESEL ENGINES
ELECTRIC SETS
TORQUE CONVERTER POWER UNITS

"Cat Engines will take more punishment, last longer, give less trouble!"

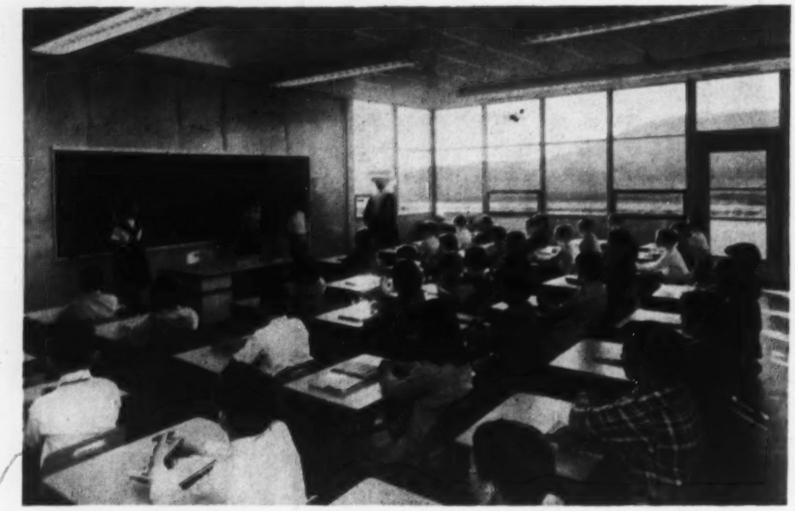
HENRY SALYER, *Superintendent*
Adams Construction Co., Roanoke, Va.

The Adams' asphalt plant in Lowmoor is 100% powered by Caterpillar Diesels—a D339 Engine for the mixer, a D315 Engine for the dryer and a D318 Electric Set for screens, elevators, plant lights, etc. Production averages 1,600 to 1,700 tons a 12-hour day. Superintendent Salyer says: "In my 16 years of experience with diesel engines, I've found Caterpillar best in every way."

Here is just one of many jobs where Cat power is paying off with dependable, low-cost performance. You'll find these rugged yellow engines delivering similar money-making operation in excavators, cranes, ditchers, aggregate dryers, mixing plants, rollers, crushers, compressors and other construction equipment.

Standardized Schoolhouse Package

Classrooms, furnished and ready for pupils, come with an easy-pay option.



Now in service in Emmitsburg, Md., and Gary, Ind., are the first two schools to be delivered by a new commercial venture that wraps up in one package a complete school plant plus financing for those who want it.

Included in the package are foundations, frame, walls, roof, floors, utilities, finish, even the furniture—in short, everything but the land.

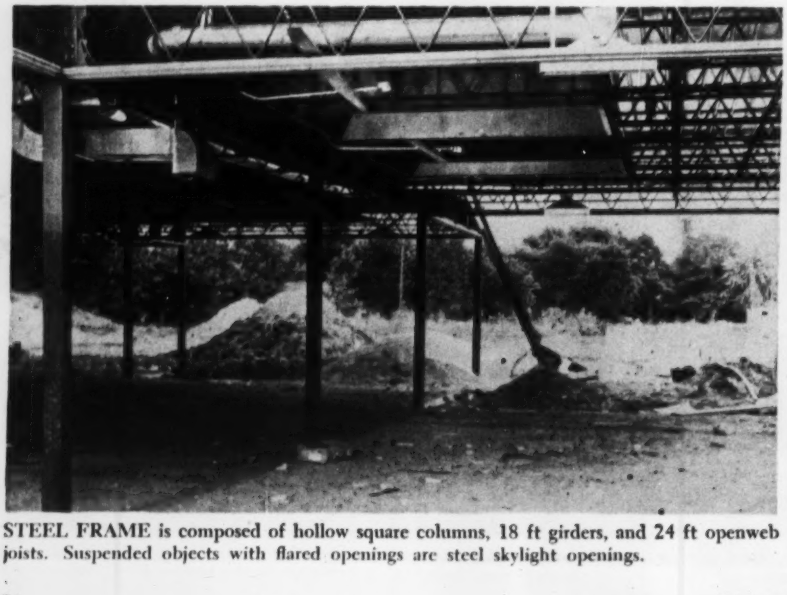
Long-term financing by the manufacturer, announced as an optional feature when preliminary details of the system were made public two years ago (ENR May 12, 1955, p. 24), is available in two forms. One is straight rental. The manufacturer retains ownership and rents the plant to the school district on a long-term lease. The other is rent-purchase. The school district pays rent, but the payments apply to the cost of the school and retire the debt over a period of 20 to 35 years—or less if desired.

The latter plan was adopted by the Gary authorities. The township made a down payment of $15,000 and will pay off the balance of $105,000 over a seven-year period. The Emmitsburg authorities, however, used neither of the plans.

The basic school-plant unit in the new system comprises four 24x36 ft classrooms plus lavatories and other mechanicals. More classrooms and rooms for other activities can be added as desired. Among the additional standard rooms offered are a 24x44 ft kindergarten classroom and two cafetoriums, 81x54 ft and 54x36 ft. Also available are utility and special purpose rooms.

Though standardized in great degree, the system has considerable flexibility, and the individual school can vary in numerous ways. For example, the layout can be T or Z-shaped, rectangular or cruciform. Any color or combination of colors can be selected from 15 available hues. A nonstandard cafetorium will be part of a third school, now under construction in Westport, Conn.

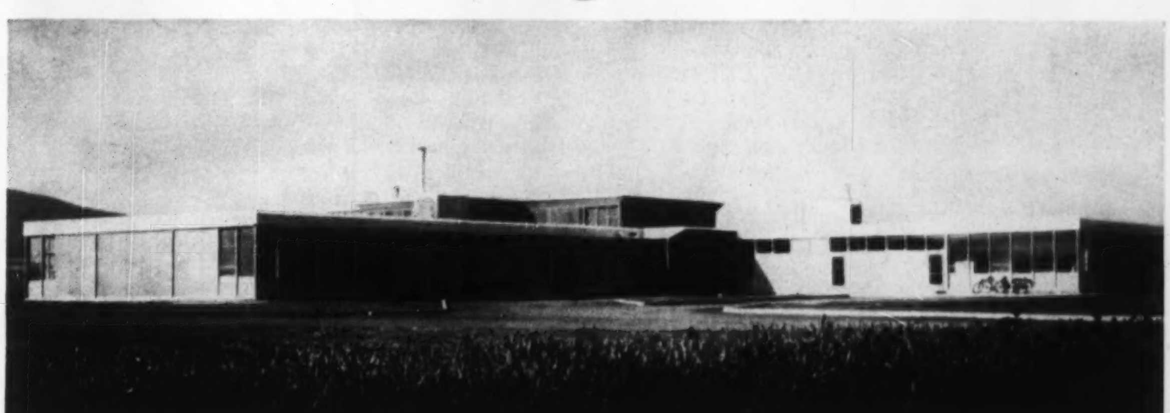
Among the advantages counted on by the manufacturer to popularize the new system is the low maintenance required. All wall surfaces, inside and out, are colored porcelain-enameled steel. Factory-assembled in sandwich panels 2½ in. thick, the steel sheets enclose an insulating core of mineral wool. Window frames and chalk boards are also made of porcelain-enameled steel. Floors are asphalt tile on concrete, ceilings are glass-fiber panels, and



STEEL FRAME is composed of hollow square columns, 18 ft girders, and 24 ft openweb joists. Suspended objects with flared openings are steel skylight openings.

CAFETORIUM, optional in the package, has a stage (left), retractable seats, and other features

Includes Financing



PAROCHIAL SCHOOL in Emmitsburg, Md., was second Structo project completed. With 12 classrooms, a cafetorium and several utility and special purpose rooms, the building cost $325,000, took 18 working weeks to construct.

the roof is tar and gravel with a 20 year bond. Furniture is steel for the most part, though desk tops are wood.

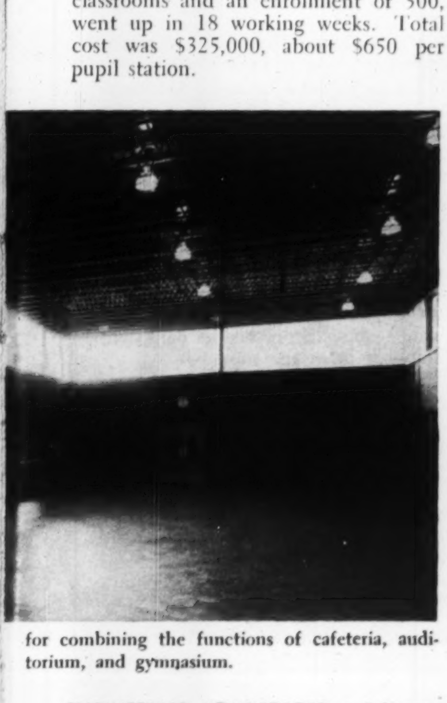
Shipment of the components, according to the manufacturer, can be made immediately after a contract is signed. On the site, a 4 room basic unit can be built and furnished in 90 days. Additional rooms require about two weeks each.

The school at Emmitsburg, with 12 classrooms and an enrollment of 500, went up in 18 working weeks. Total cost was $325,000, about $650 per pupil station.

Gary's six-room school cost $120,000.

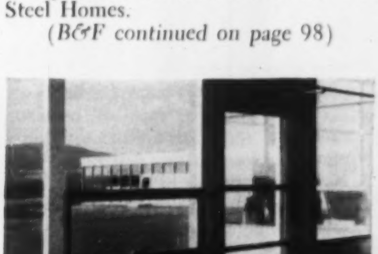
Originators and designers of the new system are Structo Schools Corp, of Boston, and Anderson-Nichols & Co., Boston architects. Under the present construction setup, the American Bridge Division, U. S. Steel Corp., has a contract to furnish and erect the structural frame and steel walls; and Structo assigns a general contractor to carry out the remainder of the work. American Bridge buys structurals from its parent company and obtains the steel wall panels from another division, U. S. Steel Homes.

(*B&F continued on page 98*)

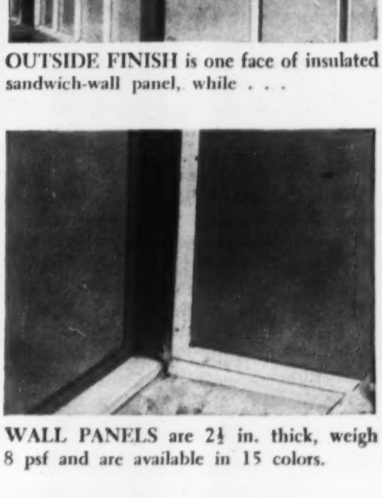


for combining the functions of cafeteria, auditorium, and gymnasium.

OUTSIDE FINISH is one face of insulated sandwich-wall panel, while . . .



INSIDE FINISH is the other face. Both sides are porcelain-enameled steel.



WALL PANELS are 2½ in. thick, weigh 8 psf and are available in 15 colors.

SKYLIGHTS are standard features. Each 24x36 ft classroom has two of them.

Capehart Housing Planned for West

More than $100 million worth of Capehart military housing projects for nine western states have been outlined by Lieutenant-General Robert N. Young, Sixth Army Commanding General, and James C. Belda, San Francisco Director of the Federal Housing Administration.

Disclosure of the program for the nine western states coincided with closing of the area's first construction contract for Capehart housing. The contract, awarded to Sun Gold, Inc. and Inland Empire Builders, Inc., both of Riverside, Calif., is for some $3 million worth of construction (189 units) at Fort Ord, Calif.

Of the $100 million total, some $53 million worth of projects for the nine-state area already have been approved by the Defense Department, General Young revealed.

These include: $10 million at Fort Huachuca, Ariz.; $3.6 million at Yuma Test Station, Ariz.; $3 million at Camp Irwin, Calif.; $19 million at Fort Ord, Calif.; $1.5 million at Oakland Army Terminal in California; $1.4 million at California's Travis Air Force Base; $1.8 million at Utah's Dugway Proving Ground; $1.1 million at Fairchild Air Force Base, Washington; $1.1 million at Fort Lawton, Wash.; $6.5 million at Fort Lewis, Wash.; and $1.8 million at the Seattle Defense Area.

More Than 20,000 Miles Of Pipelines Are Planned

Pipeline contractors in the United States and Canada have a pool of more than 20,000 miles of crude, products and gas lines planned for construction in the near future, a survey showed last week.

According to the THE PIPELINE ENGINEER, 3,654.7 miles of crude lines are planned, varying in size from 8 to 26 in., and in length from 32.6 to 600 miles.

In the field of products lines, 4,241 miles are planned, varying in size from 4 to 20 in., and in length from 68 to 1,168 miles. Gas lines with a total mileage of 12,189.5, running up to 36 in. in diameter and 1,675 miles, also are planned, the magazine said.

Biggest job listed is the 1,675 mile, 30 to 34 in. Trans-Canada line, now partially under construction to carry natural gas from Winnipeg to Montreal. Next in line in point of length is an 1,112 mile line planned by the Midwestern Gas Transmission Co., to carry natural gas between the U. S.-Canadian border near Emerson, Manitoba, and Porland, Tenn. Right behind this giant in size comes an 1,100 mile line planned by the Northern Plains Natural Gas Co., to run between the Alberta-Montana border and Minneapolis, Minn.

Construction Markets

Trenton: An On-the-Spot Report

Three of the largest construction firms in the Trenton, N. J. area say they have enough work in the industrial field to keep them busy for two years.

One reason: A rash of research centers and laboratories being planned close to the Princeton University campus. Princeton's academic reputation, the Forrestal Research Center and the Institute for Advanced Study serve as a magnet to attract more and more firms to move their research centers to locations in Mercer and Middlesex Counties.

While the industrial construction field is booming, there has been a noticeable slackening in commercial construction.

For the first time since World War II, there are no specific plans for any new shopping centers in the Trenton area. In fact, signs have been taken down which only a year ago heralded a new "regional shopping center with parking space for 2,500 cars."

Public construction, on the other hand, is expected to have a banner year.

Governor Robert Meyner and the Republican-controlled state legislature are expected to get their divergent viewpoints on financing smoothed out in time to take advantage of the federal highway building program, even though the state's own roadbuilding program has been reduced to a standstill for three months.

The reason for the slowdown: The legislature refused to go along with Meyner's plan for a one-cent-a-gallon increase in the gasoline tax to provide matching funds for federal grants. So State Highway Commissioner Dwight R. G. Palmer called a halt to all non-federal road jobs in order to conserve money for the necessary matching funds.

The state also has plans for four new office buildings in the Trenton area for a total cost of about $45 million. The governor hopes that at least one of them can be started within four months.

The rapid population increase touched off by U. S. Steel's construction of the Fairless Works across the river in Morrisville, Pa., has left most of the school districts in and around Trenton with a huge backlog of school construction jobs.

Districts in Mercer County and Burlington County in New Jersey and Bucks County in Pennsylvania have, at least on the drawing board, plans for a total of $100 million in new school construction. Builders in the Trenton area are counting on some of these projects to take up any slack in the commercial construction field.

Homebuilders in the Trenton area and in suburban Hamilton Township have switched from lower priced homes in the $12,000 to $14,000 price range to larger, more luxurious homes in the $21,000 to $30,000 range.

"I'm a realist" one builder explained, "I don't have as many prospects in the $20,000 to $30,000 price bracket, but the prospects I now get have a better than 50-50 chance of getting a mortgage. I still have unsold the last three houses I built for $14,000. There are people who want to buy them, but the bank will not give them the money."

One banker sums up the home-building situation this way: "The only home buyers who have enough money for an adequate down-payment today are those who have just sold their old house and are looking for a new and bigger home. They are the people who are in the market for four bedrooms and more, and who want all the extras. We don't turn many of them away when they come in looking for a mortgage."

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THERMAL BY-PASS OIL CIRCULATING SYSTEM—provides immediate lubrication and temperature control under *all* weather conditions.

SPLINE COUPLING—a direct drive system that does away with clutches for most efficient power transmission.

COMPACT BODY AND FRAME—easy to move from job to job—tows easily at highway speeds . . . low center of gravity keeps the 125 stable over rough job locations—and, although it's compact, there's plenty of room inside for easy maintenance.

Find out more about the smoothest 125 rotary on the market . . . see your Joy Distributor or write to ***Joy Manufacturing Company, Oliver Building, Pittsburgh 22, Pa.*** In Canada: *Joy Manufacturing Company (Canada) Limited, Galt, Ontario.*

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High Pay Demands Alarm Builders

Carpenters in northern California will seek 37½ cent wage boost, described by homebuilders as inflationary

Northern and Central California Chapters of the Associated General Contractors of America have received notice from union spokesmen for 32,000 carpenters in 42 counties that they will press for a 37½ cent hourly wage increase this year. The announcement has triggered off a word of warning from homebuilders in the state who cite the demands as "harbingers of things to come" with particular emphasis on the adverse effects increased wages will exert on every school building program in northern California.

The carpenters' proposal, which affects all of the northern section of the state except the four San Francisco Bay Area communities, is the first of the year for the two AGC chapters. In addition to the wage boost, the carpenters are asking for:

- A pension fund financed by employer contributions of 10 cents for each hour worked.
- A vacation fund financed by a similar 10 cents contribution.
- A review of the health and welfare plan.
- Subsistence and travel at $10 per diem and 10 cents per mile.
- Adequate pick-up or clean-up time.
- Premium pay for high work or creosote work.
- Double time for all overtime hours and a minimum of a half day's pay for show-up time.
- An increase in the foremen's differential to 50 cents an hour.
- On the union's demand, the employers, if they sign contracts on more favorable terms with carpenters elsewhere in the state, will make those terms applicable to this contract.

Other parts of the proposal are designed to cover problems of jurisdiction, introduction of new materials and methods, the older worker, the shorter workweek, grievance procedures and employment of apprentices. The term of the contract is left open to negotiation which is expected to commence by the end of this month. Present contract expires May 1. Current journeymen rate is $2.77½, plus 7½ cents for health and welfare.

The proposal raised a quick protest from the Associated Home Builders of the Greater East Bay, Inc., which claims that the 1956 contract with the Bay Counties District Council of Carpenters has already posed a serious threat to school construction programs under existing bond issues. It reasons that the demands of the northern carpenters will set the pace for other basic crafts still to negotiate—engineers, laborers, cement masons and teamsters—with the result that the demands will snowball into disastrously high construction costs for all of the northern counties.

Two courses of action are suggested by the homebuilders:

- That the Bay Counties District Council of Carpenters, in line with President Eisenhower's request for self-discipline, waive or reduce the deferred increases under their current contract, thus reducing some of the pressure under carpenters' demands, and . . .
- Failing that, that public opinion be aroused to resist "the highly inflationary and unreasonable demands that now appear certain to be made on the northern California construction industry."

In making these suggestions, the homebuilders state that they are not anti-union and believe in labor's right to organize and seek wage and fringe benefit improvements. But, they say, "We also believe that labor—particularly its leaders—has a responsibility to its members, to the industry, to the taxpayers and to the public to see that its demands are not unreasonable and that requests for increases in wages are commensurate with such factors as cost of living and increased productivity."

In a specific warning to the Oakland Board of Education, which has a $40 million bond-issue school construction program under way, the homebuilders say this upward trend in costs should be translated into terms of "what schools can be eliminated completely from your program, not what amenities can be done without." And if neither of its suggestions is pursued, the association continues, the decline in construction activity may increase and force a cut in wages but bring no relief to school authorities because school construction is pegged to prevailing wages.

NLRB Refuses to Grant Immunity

The immunity granted by the Taft-Hartley Act to contracts in effect before the law was passed in 1947 does not protect a 1942 closed shop arrangement, the National Labor Relations Board has ruled.

In a split decision—with Chairman Leedom and Member Rodgers representing the majority and Member Murdock the minority—the board has held that it constituted an unfair labor practice for the Morley Co. of Kansas City, Mo., and Local 269 of the carpenters union to give effect to the closed shop provisions of their labor contract. Basis of the ruling was that a 1942 agreement, which put the employer under an obligation to follow the union's working rules, unlawful on their face, became illegal when it was observed at Oakwood, Ill., where Morley had undertaken a construction project.

"Section 102 of the Act," said the NLRB, "does not preserve the validity of the 1942 agreement. All the contract calls for is recognition of the union and adherence to rules and regulations to be established later unilaterally. The agreement contains no substative terms as to wages, hours and other conditions of employment. Congress did not intend to accord the immunity of Section 102 to a contract such as this, and certainly not in perpetuity." That section preserves the validity of collective bargaining agreements made before the law was passed.

The charges stemmed from the union's refusal to give referral cards to two applicants for employment on the Oakwood job and from the company's refusal to hire them in the absence of the cards.

In the contract that the board declined to immunize, the company had agreed to recognize the jurisdictional claims of the union and to work the hours, pay the wages and abide by the rules established by the union. Among the rules was the requirement that all men doing cabinet work, bench work, assembly, lay out, machine work, saw filing, knife grinding, auto and mill tricks, machine maintenance, building and tending dry kiln shall be members of Local 269.

In his dissent, Murdock found the 1942 agreement immunized by Section 102. Even if it were not, he said, the referral card practice was not illegal because in this instance it was used only to spread work among the local's members.

(Labor continued on page 102)

Right-to-Work Laws

State court rules local ordinance unenforceable

Validity of the first right-to-work law to exist in the nation at the municipal level has been questioned and a temporary injunction preventing its enforcement has been issued.

In a legal test of a Palm Springs, Calif., ordinance the Superior Court of Riverside County has concluded that the city had no right to adopt an ordinance banning union shops because "union or closed shop agreements are lawful" under California law.

With the right-to-work issue again before state legislatures, the California case assumes significance. For, if the California court is correct and the ordinance is void, then the door is closed to what amounts to local option in the right-to-work field where no action has been taken at the state level.

The Palm Springs ordinance, effective last December, prohibits use of any agreement that "excludes any person from employment or continuation of employment because of nonmembership in a labor organization."

In effect, the California court said that the Taft-Hartley Act permits use of union shop agreements except in those areas where the union shop is outlawed by state or territorial law; the fact that California has not passed a right-to-work law means that the union shop is valid in California; and a city has no right to act contrary to the law of its state.

Seventeen states, either by statutory or constitutional provision, now have right-to-work laws, and present indications are that the Administration will not ask for repeal of the Taft-Hartley provision, Sec. 14 (b), that permits states to ban the union shop. Right-to-work bills are now before the legislatures of Delaware and Idaho; efforts are under way in Indiana and Washington to submit the issue to popular vote; an attempt to insert a right-to-work clause in a civil rights bill failed in Wyoming; an attempt is being made to repeal the North Dakota law; and plans are being readied to preserve the Florida law when revision of the state constitution is undertaken.

No Ban on Canadian Labor For Jobs on St. Lawrence

United States contractors may employ Canadian labor on St. Lawrence Seaway projects that are located wholly within the U. S. portion of the big international project.

The announcement was made last week in reply to complaints by three U. S. labor unions that this country is waiving a ban on Canadian labor by inviting Canadian bids for the dredging of the Seaway's South Cornwall Channel. The protest, which claims Canada is maintaining its ban on U.S. labor, was filed with Rep. Clarence Kilburn, who sought the advice of Maj. Gen. Charles G. Holle, special assistant to the Chief of Army Engineers and a member of the U. S. Joint St. Lawrence Board of Engineers.

"There is no United States law, custom or policy," Gen. Holle said, "requiring that United States agencies or contractors use United States labor exclusively and precluding the employment of other nationals."

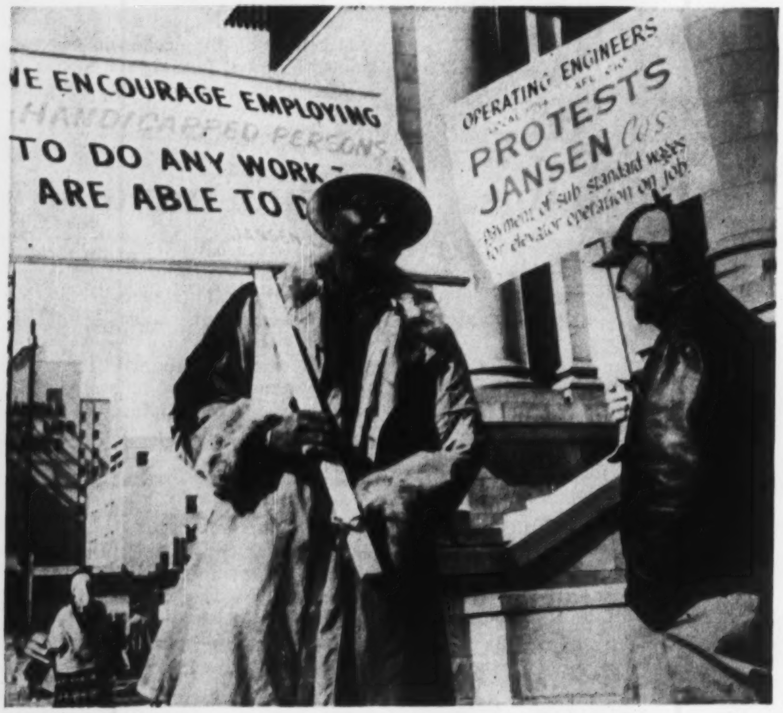
M. M. Hanson Will Direct New Apprenticeship Unit

The U.S. Labor Department's Bureau of Apprenticeship and Training has reorganized its apprenticeship service into three major divisions in order to strengthen and improve the service it renders to industry. The three divisions are National Industry Promotion, State-Federal Relations, and Registration and Review.

M. M. Hanson, former Chief of Field Operations and National Consultant on Apprenticeship for the Construction Industry, will head the bureau's National Industry Promotion activities. A former plumber, pipe fitter and civil engineer, Hanson came to the bureau in 1936 from the Wisconsin State Board for Vocational Education.

The Division of State-Federal Relations will be under the direction of Fred A. Erhard—a former engineer from Texas—and the Division of Registration and Review will be under the supervision of Ansel R. Cleary, former Chief of the Division of Research and Review.

(*Labor continued on page 106*)



Tables Turned on Construction Pickets

Frank Jamison, a one-armed Negro elevator operator, last week in Dallas, Tex., picketed a picket line of construction workers who walked off their jobs on the remodeling of the old City Hall because they claimed Jamison, a nonunion man, was being underpaid. Jansen Co., contractor, pays Jamison $50 a week—protesting union, operating engineers, claims he should get $112. Jansen professed willingness to pay Jamison union wages, but said the local would not accept a Negro.

The AFL-CIO, with which the local is affiliated, is pledged to promote the civil rights of all Americans, including freedom from discrimination in union membership.

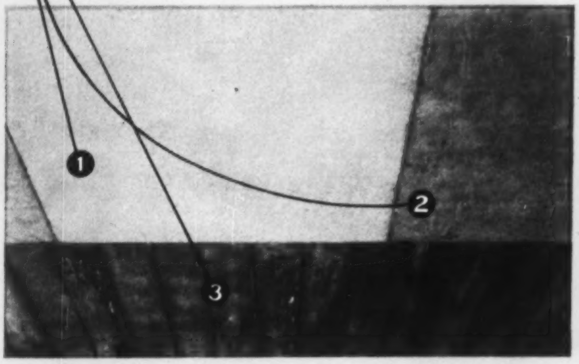
reasons why **PLYGLAZE**® high-density* overlaid plywood outperforms any form material on the market

1. FORMS SMOOTHER CONCRETE

Hard, glossy-smooth fused resin-fiber surfaces form flawlessly smooth concrete, with no trace of grain pattern. Unretouched photo shows marked difference in appearance quality of concrete cast against PlyGlaze, ordinary plywood and shiplap.

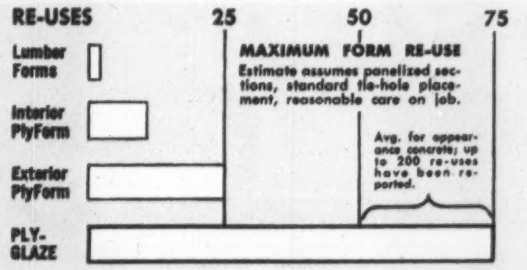
RELATIVE APPEARANCE OF CONCRETE

	Up to 50% of Max. Re-Use	Up to 100% of Max. Re-Use	Where to Use
1. PLYGLAZE	Excellent	Good	For smoothest concrete, maximum re-uses
2. PLYFORM	Good to Fair	Fair to Poor	For fairly smooth concrete, multiple re-uses
3. LUMBER	Poor	Very Poor	Where appearance and re-use not important



2. GIVES MANY MORE RE-USES

PlyGlaze's tough, hard surface stands up under hundreds of pours. With reasonable care, you'll easily get 50 to 75 re-uses. Actually over 200 have been obtained—and even then PlyGlaze continued to form good looking concrete.



3. HELPS CUT COSTS TWO WAYS

A. TIME & LABOR SAVINGS—Sharply reduces rubbing and finishing labor. Ceiling slabs can be painted direct, eliminating expensive plastering. PlyGlaze also cuts form construction, erection and stripping time. High re-use factor eliminates form reconstruction during job.

B. LOW COST PER USE—Even when cost is sole criterion, greater number of PlyGlaze re-uses frequently more than make up for higher initial cost, particularly where costs can be amortized over 25 or more pours.

COST PER-SQUARE-FOOT-PER-USE

No. Re-Uses ➤	1	10	25	50	100	200
PLYGLAZE	$0.375	.038	.015	.008	.004	.002
Exterior PLYFORM	.234	.023	.009	Gives Max. 25 Re-Uses		
Interior PLYFORM	.218	.022	Gives Maximum 10-12 Re-Uses			
LUMBER	.110	Gives Maximum 2-3 Re-Uses				

Estimates based on 30 month average for prices quoted by St. Paul & Tacoma for following material delivered in Chicago: ¾" PlyGlaze; ¾" Ext. & Int. PlyForm, mill oiled, edge sealed; 2 & btr. 1" green Douglas fir or hemlock.

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- Has the strength, workability and adaptability of ordinary plywood.
- Strips easily; the non-absorbent surfaces will not stick to the concrete.
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- Overlay minimizes moisture pickup and the resultant loss of rigidity.

Hard, glossy, translucent high density* fused-resin fiber overlay bonded to both sides of panel. Resin content controlled to give exact amount of hardness and wear resistance required for form work.

Base panel is top quality DFPA-Inspected solid core Exterior fir plywood. Available in all standard sizes, thicknesses.

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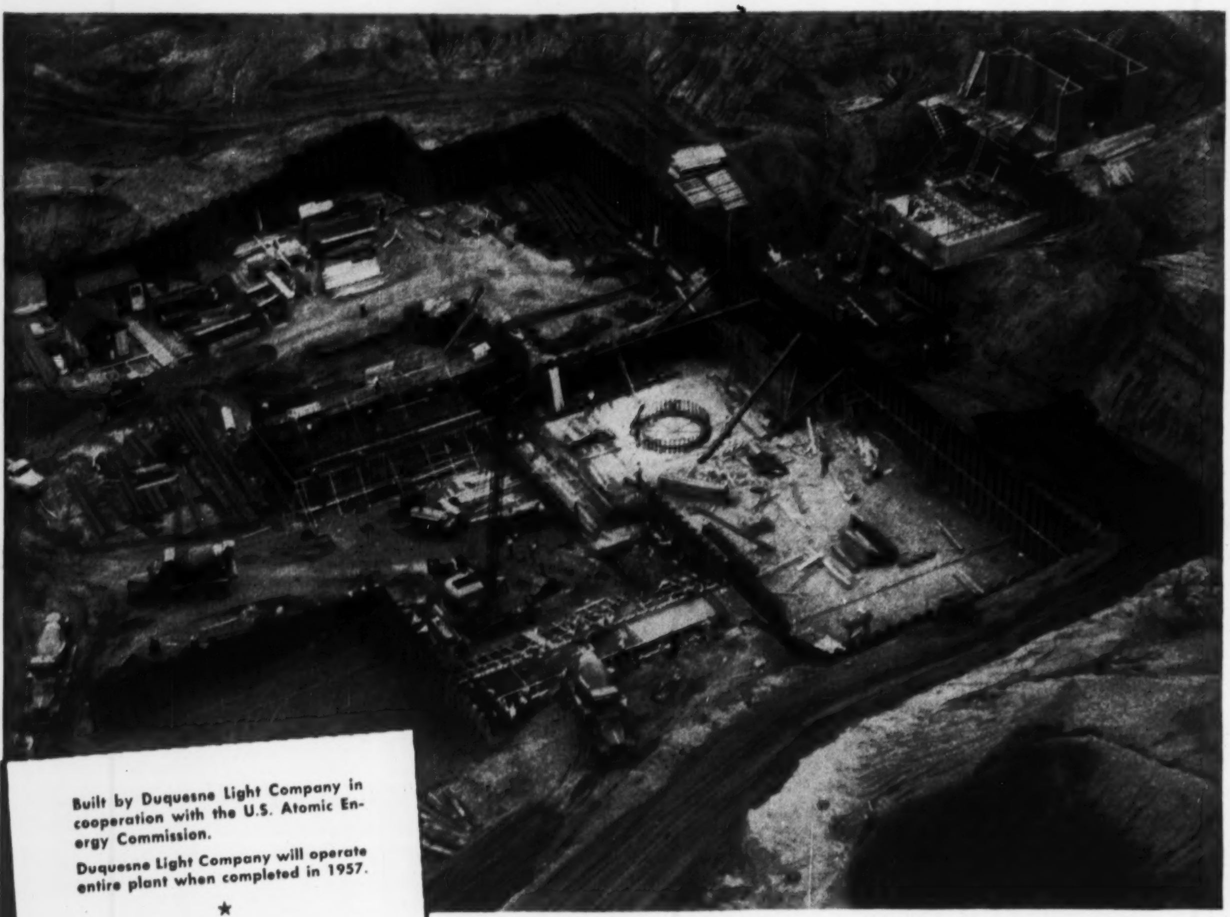
*HIGH DENSITY (glossy, translucent overlay) is special concrete form panel. MEDIUM DENSITY overlay (opaque with texture similar to drawing paper) is paint grade; not for form work.

At Nation's First Full-Scale Atomic Energy

700 TONS OF USS STEEL

provide permanent retaining



Built by Duquesne Light Company in cooperation with the U.S. Atomic Energy Commission.

Duquesne Light Company will operate entire plant when completed in 1957.

★

Westinghouse Electric Corp., under contract with the Atomic Energy Commission, is building the reactor.

★

Burns and Roe, Inc. is the agent-constructor for Duquesne Light Co. Associates are J. Rich Steers, Inc., and Hatzel and Buehler, Inc.

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Ferguson & Edmundson Company is sub-contractor for Excavation and Piling.

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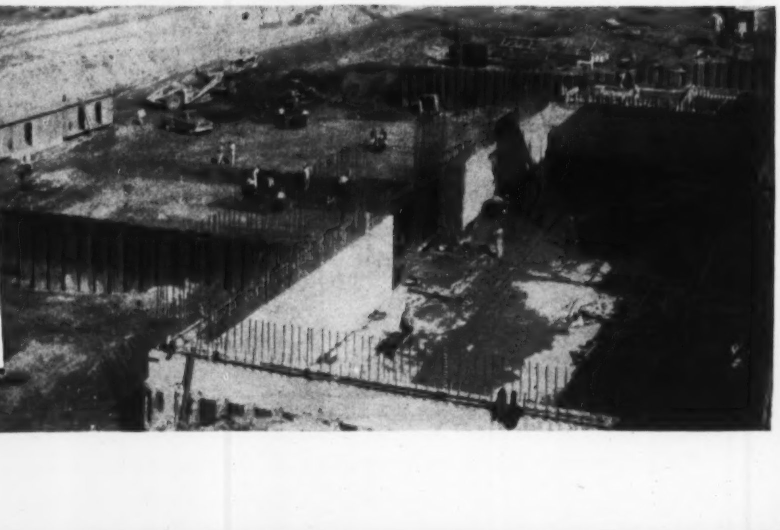
Stone and Webster Engineering Corporation is Architect-Engineer for Westinghouse.



Electric Power Plant—

SHEET PILING

wall for main structure of big project!

THE LARGE PICTURE at the left shows the foundation construction for the nation's first full-scale nuclear power plant.

Being built by Duquesne Light Company in cooperation with the Atomic Energy Commission, the huge project is located at Shippingport, Pa.—on the Ohio River about 25 miles below Pittsburgh.

This revolutionary plant, which will have a nuclear reactor producing at least 60,000-kw net electrical output, as well as a turbine-generator capable of 100,000-kw, will deliver electricity to Duquesne's customers in Allegheny and Beaver Counties.

Because the main structure will extend 75 ft. below grade, 23,896 lineal feet of USS sheet piling were driven to an average depth of 36 feet into the ground for the necessary retaining wall prior to the extensive excavating.

The approximately 700 tons of sheet piling not only served as the outside form for the pouring of the reinforced concrete walls, but were left in the ground permanently as a strong, durable steel skin for the concrete—*a double wall, so to speak.*

The application of USS Steel Sheet Piling at Shippingport is further proof that this versatile construction medium is the ideal solution to any problem involving the retention and control of earth or water. Forming a continuous wall, interlocking USS Sheet Piling offers easily installed construction that is strong, rugged and lasting.

For detailed information about this economical steel piling which is available in straight-web, arch-web, and Z-sections, contact the nearest office, or write to our Pittsburgh headquarters.

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SEE THE UNITED STATES STEEL HOUR. It's a full-hour TV program presented every other week by United States Steel. Consult your local newspaper for time and station.

UNITED STATES STEEL

Rackets Probe Extends To Construction Industry

Last week, as the U. S. Senate cited four teamster officials for contempt, the new select Senate Committee on Labor and Management Practices disclosed it has uncovered signs of widespread fraud and other abuses on the part of both labor and management, including some in the construction industry.

The committee, headed by Sen. John McClellan, is conducting a probe into racketeering in labor and industry. Its investigation has the official support of the AFL-CIO, which has asked full cooperation from its members.

According to McClellan, committee investigators are at work in nine cities—New York, Philadelphia, Scranton, Pa., Chicago, Minneapolis, Los Angeles, San Francisco, Portland, Ore., and Seattle.

Problems under scrutiny include labor-management collusion, control of some unions by racketeers, misuse of union funds, violence, shakedowns, conflicts of interests by officials, and denial of civil liberties to some union members.

Among the unions listed by McClellan as those into whose affairs the probe will reach are teamsters, carpenters, operating engineers, plumbers and steamfitters.

Teamster officials cited for contempt for refusal to testify before the Permanent Subcommittee on Investigations include Einar Mohn, executive vice president, and Frank Brewster, head of the Western Conference of Teamsters. Their refusal was based, not on the Fifth Amendment, which the AFL-CIO has denied its members as a shield, but on the grounds that the committee had no jurisdiction over labor matters.

Labor Briefs . . .

- **New Montreal rates**—Over 65,000 construction workers in Montreal, Quebec, have been granted a 10 cent wage increase effective April 1 with another 10 cent boost due in 1958. Signers of the two-year contract were the Montreal Builders Exchange, the Building Trades Council of Montreal & Vicinity and the Catholic Syndicate of Construction Workers.
- **NLRB appointments**—President Eisenhower has nominated Jerome D. Fenton, Connecticut Republican and an attorney who has been in the Defense Department since 1954, as NLRB General Counsel to succeed T. C. Kammholz. Earlier Eisenhower designated Texas lawyer and NLRB trial attorney Joseph A. Jenkins as successor to Ivar Peterson as board member.

OFFICIAL PROPOSALS

APPEAR HERE EACH THURSDAY. PROPOSAL ADVERTISEMENTS ACCEPTED UP TO 10:30 A.M. FRIDAY FOR THE ISSUE DATED THE FOLLOWING THURSDAY.

Bids: March 18, 1957

City of Fort Lauderdale

NOTICE TO BIDDERS

Sealed proposals will be received until 11:00 A.M. EST, March 18th, A.D. 1957, in the office of the City Commission of Fort Lauderdale, Florida for construction of Sewage Treatment Plant "B" and appurtenances.

Bidding blanks may be obtained from the office of the City Engineer. Plans, Specifications, and Contract Documents are on file in the office of the City Engineer.

A deposit of $25.00 for Plans and Specifications and of $15.00 for each additional set of plans or specifications, will be required. All deposits for plans and specifications will be refunded upon their return in good condition within 10 days of the opening of bids.

A certified check for 2% of the total amount of the bid, made payable to City of Fort Lauderdale, Florida, shall accompany each proposal as evidence of good faith and responsibility of the Bidder. This check shall be retained by the payee as liquidated damages should the Bidder refuse or fail to enter into a contract with the payee for the execution of the work embraced in the Proposal, in the event the Proposal of the Bidder is accepted

The City Commission reserves the right to reject any or all bids.

William J. Veeder
City Manager

Bids: March 19, 1957.

Contract BP-150.004

ADVERTISEMENT
THE PORT OF NEW YORK AUTHORITY
BROOKLYN-PORT AUTHORITY PIERS
PIER 1
DEMOLITION AND DREDGING

Sealed proposals for demolition of Piers 3, 4, 5 and a portion of 6 and dredging at the site thereof, all at the Brooklyn-Port Authority Piers, will be received at the office of the Chief Engineer of The Port of New York Authority, Room 1100, 111 Eighth Avenue, New York 11, N. Y., until 2:30 P. M. on Tuesday, March 19, 1957, at which time said proposals will be opened and read in Room 1108.

Contract documents may be seen at the office of the Engineer of Design of the Authority, Room 1115. Documents will be furnished upon deposit of $30.00 per set for not more than three sets to any one company (each set including one copy of the contract drawings). Additional sets will be furnished upon payment of $30.00 per set, which payment is not returnable. Deposits and payments shall be delivered to the Treasury Department, Room 1001, where a receipt in duplicate will be issued. A copy of the receipt shall be delivered to Room 1115, where the documents will be furnished.

Those who have submitted a bid on the contract will receive a refund of the deposit for each set of documents, not exceeding three, returned within forty days after the opening of proposals. Those who have not submitted a bid will receive a refund of one-half of the deposit for each set of documents, not exceeding three, returned within forty days after the opening of proposals.

THE PORT OF NEW YORK AUTHORITY
Donald V. Lowe, Chairman
New York, February 28, 1957.

Bids: March 19, 1957

Contract PN-410.001

ADVERTISEMENT
THE PORT OF NEW YORK AUTHORITY
PORT NEWARK
TRAILER PARKING AREA

Sealed proposals for the construction of a trailer parking area at Port Newark will be received at the office of the Chief Engineer of The Port of New York Authority, Room 1100, 111 Eighth Avenue, New York 11, N. Y., until 2:30 P.M. on Tuesday, March 19, 1957, at which time said proposals will be opened and read in Room 1108.

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THE PORT OF NEW YORK AUTHORITY
Donald V. Lowe, Chairman
New York, February 28, 1957

U. S. Government

DEPARTMENT OF THE INTERIOR, Bureau of Reclamation. Sealed bids (Specifications No. DC-4864) will be received at Hayden Lake Corners, Hayden Lake, Idaho, until April 9, 1957, for furnishing labor and materials for Hayden Lake Pumping Plant, elevated steel tank, and distribution system, Rathdrum Prairie Project, Idaho. Location near Coeur D'Alene, Idaho. Principal items are furnishing and erecting 75,000 gallon elevated steel tank; 27,000 cu. yds. excavation and backfill of pipe trenches; furnishing and installing 82,660 lin. ft. steel pipe, 4-inch to 27½-inch diameter; 105 cu. yds. concrete in structures; and other work. Completion time 350 days. For particulars, address Bureau of Reclamation, P. O. Box 937, Boise, Idaho; P. O. Box 705, Bridgeport, Washington; or Building 53, Denver Federal Center, Denver 2, Colorado. W. A. Dexheimer, Commissioner.

DEPARTMENT OF THE INTERIOR, Bureau of Reclamation. Sealed bids (Specifications No. DC-4859) will be received at Helena, Montana, until March 28, 1957, for furnishing labor and materials for earthwork and structures for Helena Valley Canal, Station 149+02.5 to Station 572+50, Helena-Great Falls Division, Missouri River Basin Project, Montana. Location near Helena, Montana. Principal items are 411,000 cu. yds. excavation; 660 cu. yds. concrete in structures; 2,500 cu. yds. concrete in monolithic-concrete siphon barrels, or alternative 3,600 feet of 84-inch precast-concrete pressure pipe for the siphon barrels; and other work. Completion time 550 days. For particulars, address Bureau of Reclamation; P. O. Box 551, Helena, Montana; or Building 53, Denver Federal Center, Denver 2, Colorado. W. A. Dexheimer, Commissioner.

OFFICIAL PROPOSALS

Bids: March 5, 1957

Power Authority of the State of New York

BARNHART-PLATTSBURGH TRANSMISSION PROJECT
ADVERTISEMENT FOR PROPOSALS
FOR
THE FURNISHING AND DELIVERY OF POWER CIRCUIT BREAKERS
SPECIFICATIONS NO. PA-6-28
CONTRACT NO. TP 4

NOTICE TO CONTRACTORS: The POWER AUTHORITY OF THE STATE OF NEW YORK will receive sealed proposals for the design, manufacture and furnishing of power circuit breakers and delivery thereof, f.o.b. cars at destination until 10:30 A.M. Eastern Standard Time on the 5th day of March, 1957, at the Authority's office, 270 Broadway, Room 1305, New York, New York, at which time and place proposals will be publicly opened and read aloud.

Bids will be received for eleven (11) power circuit breakers, associated equipment and services in accordance with the bidding schedule. Erection at the site of installation will be done by Others, but services of erecting engineers shall be provided by the manufacturer when and if required. Delivery of the power circuit breakers and associated equipment will be required June 15, 1958.

Specifications and Proposal Forms for the work will be on file in the Authority's Office and in the offices of the Engineer, Uhl, Hall & Rich, 230 Congress Street, Boston 10, Massachusetts and may be inspected by prospective bidders during office hours; and may be obtained from the Power Authority of the State of New York, 270 Broadway, Room 1300, New York 7, New York, upon application and prepayment of a fee of Ten ($10.00) Dollars for initial set of Contract Documents and Five ($5.00) dollars for each additional set, no part of which will be refunded. Two sets must be returned with each bid.

Bids must be made in duplicate in accordance with instructions contained in the Information for Bidders. Guarantee will be required with each bid in an amount not less than 10% of the gross sum bid.

The right is reserved to reject any or all bids.

W. S. CHAPIN
General Manager

OFFICIAL PROPOSAL

RATE:

$2.10 per line (or fraction) per insertion.

CLOSING DATE:

10:30 a.m. Friday for issue out following Thursday.

SEND COPY:

Official Proposal Division, Engineering News-Record, P. O. Box 12, New York 36, N. Y.

U. S. Government

DEPARTMENT OF THE INTERIOR, Bureau of Reclamation. Sealed bids (Specifications No. DC-4865) will be received at Kanab, Utah, until April 11, 1957, for furnishing labor and materials for furnishing and erecting one 150,000-gallon elevated steel water tank and one 3,000,000-gallon steel storage reservoir for Glen Canyon Community facilities, Colorado River Storage Project, Arizona-Nevada. Location near Lee's Ferry, Arizona. Completion time 300 days. For particulars, address Bureau of Reclamation, P. O. Box 267, Kanab, Utah; P. O. Box 360, Salt Lake City 10, Utah; or Building 53, Denver Federal Center, Denver 2, Colorado. W. A. Dexheimer, Commissioner.

Department of Commerce, Bureau of Public Roads, February 20, 1957. SEALED BIDS will be received at the office of the Bureau of Public Roads, 214 Globe Building, 4th & Cedar Streets, St. Paul, Minnesota, until 11:00 a.m., C.S.T., MARCH 22, 1957, for Minnesota Forest Highway Project No. 3-B3,A1, Chippewa National Forest, Beltrami and Cass Counties, Minnesota. 14.974 miles Grading, Draining, Gravel Base Course, Bituminous Plant-Mix Surfacing, and other work on the Cuba-Blackduck Road from 11.2 miles south of Blackduck to U.S. 2. The approximate quantities of the more important items are 60 acres Clearing and Grubbing, 285,000 cu. yd Excavation, 34,000 cu. yd. Gravel Base Course, and 17,600 tons Asphaltic Plant-Mixture. Minimum wage rates have been fixed as required by law. Plans, specifications, and proposal forms are available upon request at the address given above, or Bureau of Public Roads, 1440 Columbia Pike, Arlington 4, Virginia. H. J. Spelman, Regional Engineer.

Department of Commerce, Bureau of Public Roads, February 13, 1957. SEALED BIDS will be received at the office of the Bureau of Public Roads, First National Bank Building, Florence, Alabama, until 10:00 a.m., C.S.T., MARCH 15, 1957, for the construction of Project 1F1, Natchez Trace Parkway, Lewis County, Tennessee. 8.798 miles Grading, Draining, Gravel or Stone Base Course and other work from 0.6 mile south of Little Buffalo River to near Little Swan Creek. The approximate quantities of the more important items are: 755,900 cu. yd. Excavation, 57,000 tons Crushed Gravel or Crushed Stone, 2,635 cu. yd. Concrete and 7,810 lin. ft. Concrete Culvert Pipe. Minimum wage rates have been fixed as required by law. Plans, specifications and proposal forms are available upon request at the address given above, or Bureau of Public Roads, 1440 Columbia Pike, Arlington, Virginia. H. J. Spelman, Regional Engineer.

DEPARTMENT OF THE INTERIOR, Bureau of Reclamation. Sealed bids (Invitation No. DS-4862) will be received at Denver, Colorado, until April 23, 1957, for furnishing two oil pressure, cabinet-type, actuator governors for regulating the speed of two 33,500-HP, 257-rpm, vertical-shaft hydraulic turbines for Fremont Canyon Power Plant, Missouri River Basin Project, Wyoming. Delivery is desired within 540 days. For particulars, address Bureau of Reclamation, Building 53, Denver Federal Center, Denver 2, Colorado. (W. A. Dexheimer, Commissioner)

DEPARTMENT OF THE INTERIOR, Bureau of Reclamation. Sealed bids (Specifications No. DC-4856) will be received at Denver Federal Center, Denver 2, Colorado, until April 4, 1957, for furnishing labor and materials for the design, construction, installation, and tests of a spillway white or colored floodlighting system for the spillway at Grand Coulee Dam. Location Coulee Dam, Washington. Completion time 150 days. For particulars, address Bureau of Reclamation, P. O. Box 937, Boise, Idaho; Coulee Dam, Washington; or Building 53, Denver Federal Center, Denver 2, Colorado. W. A. Dexheimer, Commissioner.

DEPARTMENT OF THE INTERIOR, Bureau of Reclamation. Sealed bids (Specifications No. DC-4858) will be received at Helena, Montana, until March 26, 1957, for furnishing labor and materials for Helena Valley Dam, Helena-Great Falls Division, Missouri River Basin Project, Montana. Location 6 miles east of Helena, Montana. Principal items are 345,000 cu. yds. excavation; 220,000 cu. yds. earthfill in dam; 535 cu. yds. concrete; and other work. Completion time 600 days. For particulars, address Bureau of Reclamation, P. O. Box 551, Helena, Montana; or Building 53, Denver Federal Center, Denver 2, Colorado. W. A. Dexheimer, Commissioner.

U. S. Government

GOVERNMENT OF IRAQ DEVELOPMENT BOARD AND MINISTRY OF DEVELOPMENT TECHNICAL SECTION NO. 2 CONTRACT NO. S1/1957. The Development Board & Ministry of Development invite tenders from Building and Civil Engineering Contractors to act as a General Contractor for the erection of the New Karkh Hospital, Baghdad.

The work comprises piled foundation concrete framed Hospital building for approximately 550 beds together with Plant House, Laundry, Ambulance Station, Sewage Dispisal Plant and river wall extension.

The tender documents and drawings may be inspected at the following offices:—

Director General,
Technical Section 2,
Iraq Development Board,
BAGHDAD, Iraq.

Iraqi Embassy,
2135, Wyoming Avenue, N. W.,
Washington 8, D. C.,
U.S.A.

Royal Iraqi Legation,
Am Hofgasten 1-2,
Bonn,
W. Germany

Royal Iraqi Legation,
Piazza Digione, N1/1,
Rome,
Italy.

Director General,
Public Works Department,
BAGHDAD,
Iraq.

Iraqi Embassy,
22, Queen's Gate,
London, S.W. 1,
England.

Royal Iraqi Legation,
176 Avenue Bragmann,
Bruxelles,
Belgique.

Tender documents, in duplicate, and typical plans only may be obtained on or after 31st January 1957, from the Directorate-General of Legal Affairs and Contracts, Ministry of Development, Baghdad, or from the Embassies and Legations listed above by intending tenderers on the payment of Iraqi Dinars Twenty Five (ID. 25) or the equivalent in local currency, which sum is not returnable.

Tenders will only be accepted from firms who have successfully carried out large building contracts of a similar nature in the past.

Tenders must be accompanied by a preliminary deposit of ID.20,000/(ID.1 = £1 sterling approximately) which shall be paid in cash or by a Letter of Guarantee from an approved Bank in Iraq, as described in the "Instructions to Persons Tendering".

Tenders must be submitted to the Ministry of Development (Directorate-General of Legal Affairs & Contracts) in sealed envelopes marked "TENDER FOR KARKH HOSPITAL" on or before 12 noon local time on 1st June 1957 and enclosing in a separate envelope, a letter of capacity, method of procedure and articles of association which must be submitted at the same time.

Tenders not submitted upon the official Contract Documents within the time specified or not complying with the "Instructions to Persons Tendering" contained in the documents shall be neglected.

The Board does not bind itself to accept the lowest or any tender.

Minister of Development
BAGHDAD.

Department of Commerce, Bureau of Public Roads, February 14, 1957. SEALED BIDS will be received at the office of the Bureau of Public Roads, Gatlinburg, Tennessee, until 11:00 a.m., E.S.T., MARCH 21, 1957, for Project 15A3, Foothills Parkway, Sevier County, Tennessee. Grading, draining, tunnel with lining, steel girder bridge, four concrete box culverts, crushed gravel or crushed stone base course, bituminous prime coat and surface treatment, and other work on the Northbound Roadway from Bent Field 3.863 miles to Caney Creek. The approximate quantities of the more important items are as follows: 285,000 cu. yd. Excavation other than for Tunnel, 37,800 tons Crushed Gravel or Crushed Stone, 166,000 lb. Reinforcing Steel, 1,882 cu. yd. Stone Masonry, 4,740 lin. ft. Culvert Pipe, 20,500 cu. yd. Excavation for Tunnel, 265 M. ft. b.m. Timber Tunnel Lining or 610,000 lb. Steel Tunnel Lining, and 3,290 cu. yd. Concrete in Culverts, Bridge and Tunnel. Minimum wage rates have been fixed as required by law. Plans, specifications and proposal forms are available upon request at the office of the Division Engineer, 1440 Columbia Pike, Arlington, Virginia, or at the address given above. H. J. Spelman, Regional Engineer.

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The advertising rate is $31.80 per inch for all advertising appearing on other than a contract basis. Frequency rates quoted on request.

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P. O. Box 12, N. Y. 36. March 14th issue closes March 4th.

SPECIFICATIONS WRITER

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Applicants should possess at least several years experience writing building specifications for material purchases and subcontract specification for all building trades.

This is a permanent position, offering good starting salary, all fringe benefits, good working conditions, high management cooperation, and opportunity for advancement.

Please submit a complete resume stating education, experience, salary requirement, and earliest date available to:

The H. K. FERGUSON COMPANY
ENGINEERS AND BUILDERS
1783 East 11th St., Cleveland 14, O.

STRUCTURAL DESIGNERS

FOR HIGHWAY BRIDGE WORK
SENIORS and JUNIORS
Work in New York City and New Jersey

BROWN & BLAUVELT
468 Fourth Avenue, New York City
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HIGHWAY & SANITARY

ENGINEERS—DESIGNERS
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Excellent opportunities for advancement. Experience necessary, except for engineering graduates. Paid vacation, sick leave, holidays, overtime, Blue Cross—moving allowance.

Glace Engineering Corporation
First Federal Building, St. Petersburg, Florida

CIVIL ENGINEER

Young civil engineer interested in broad application of civil engineering.

Excellent opportunity with consulting firm. Liberal benefit plans and good working conditions. Location Middle West.

Send resume of education and experience with salary requirements to:

P-3223, Engineering News-Record
520 No. Michigan Ave., Chicago 11, Ill.

REPLIES (Box No.): Address to office nearest you c/o This publication Classified Adv. Div.
NEW YORK: P. O. Box 12 (36)
CHICAGO: 520 N. Michigan Ave. (11)
SAN FRANCISCO: 68 Post St. (4)

POSITIONS VACANT

Civil Engineer-Estimator: for industrial construction. Approximately 10-15 years of both estimating and job experience. Salary open, position permanent. Located in Florida. P-3632, Engineering News-Record.

Superintendent—Swimming pool construction. All phases gunite pool experience essential. Salary open. Westchester County. Reply Box 505, Bedford, N. Y.

Position Vacant—Field Superintendent for concrete bridge and dam construction. Please furnish complete education and experience data, references and salary desired. Reply to P-4282, Engineering News-Record.

Designers—Electrical and Piping . . . Power Plants and Industrial Buildings. Marbarry Corp., 120 Greenwich St., New York City 6, N. Y. REctor 2-3749.

Highway Materials Engineers and Inspectors. Large commercial Inspection and Testing Agency desires to expand permanent personnel gradually during next several months. Openings will be in various areas, Continental United States. Submit age, education, experience, and salaries earned. All correspondence confidential. P-4274, Engineering News-Record.

Wanted—Experienced Designers on Highway Projects. Location central Ohio. Excellent opportunities for those who can qualify. Long range work program. Generous employee benefits. Reply stating qualifications, availability, and salary requirements. P-4264, Engineering News-Record.

Graduate Civil Engineers not over 30 and preferably single. Must have military training completed and interested in the building construction business, starting in the field. We offer opportunity for rapid advancement to ambitious, hard-working young men willing to accept responsibility. Starting salary $110.00 per week if inexperienced with higher wages for those with some experience. Send complete history data. Martin K. Eby Construction Co., Inc., 610 N. Main, Wichita 5, Kansas.

Soils Engineer—prefer man with MS in soils about 1945 or 1946—to head up a design group in a firm of consulting engineers specializing in design of dams. Must be top-notch design engineer and supervisor. Salary open. Location Midwest. P-3942, Engineering News-Record.

ENGINEERS

Civil Engineers with or without experience in hydraulics, soils, concrete design, contracts estimating, dams or construction for work on flood control projects in Pennsylvania. Salary to $9000. State experience, salary reqiurements and references.

P-4228—Engineering News-Record
Class. Adv. Div., P. O. Box 12, N. Y. 36, N. Y.

CONSTRUCTION MANAGER

Experienced in Structural Steel Erection, Machinery installation—to coordinate such operations. Location metropolitan New York area.

P-4420, Engineering News-Record,
Class. Adv. Div., P.O. Box 12, N.Y. 36, N.Y.

POSITIONS VACANT

Young engineer with drive and ambition to assist in the production at a Concrete Pipe Plant near New York. Send complete resume and salary requirements. Box 122, Whippan, N. J.

Reinforcing Steel Man to locate South Florida with pioneer builders' supply firm with existing Steel Dept. Must be thoroughly experienced in all phases of detailing, estimating, selling and management. Permanent position with many fringe benefits and excellent potential. Send complete resume of age, education, experience and salary expected. P-4435, Engineering News-Record.

Civil Engineer—Prefer recent graduate. Opportunity in growing Florida organization. Contact David Russel, Vice Pres., Beiswenger, Hoch and Assoc., 1501 Prudential Bldg., Jacksonville, Florida.

Concrete Engineer for mix design. Capable of supervising Material Testing Laboratory for work in southern Idaho. Ample relocation allowances. Send resume to F. C. Torkelson Company, Box 185, Idaho Falls, Idaho.

Excellent opportunity, for man with good contacts with engineers in the heavy chemical and paper pulp mill fields, to represent firm of contracting engineers, specializing in corrosion control protective coatings (not paint). Drawing account and expenses against commission. Please state experience, age, and full particulars. P-4430, Engineering News-Record.

(Continued on page 112)

When Writing Your Ad

Provide an indexing or subject word.
Write it as the first word of your ad.
If it is a Position Wanted or Position Vacant ad, make the first word the kind of position sought or offered.
This will assure proper classification in the column.
The right is reserved to reject, revise or properly classify all Want Advertisements.

Proper Classification increases the possibility of Prompt Returns

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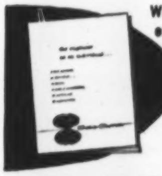
If this specification fits you . . . and most important, if you like the concept of the sales engineer as a creative individual, we would like to hear from you. A letter, collect call or wire to E. E. Johnson, our Director of Personnel at Stamford, Connecticut, is all that's needed. We'll do our best to arrange an interview at your convenience.



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COST ENGINEERING

Career positions available for graduate engineers in long range expansion program. Work involves technical aspects of cost estimating, development of estimating methods and cost analysis for all types of petroleum and chemical processing plants.

Excellent opportunities to learn many aspects of process and mechanical design while contributing to selection of optimum equipment for world wide expansion program.

High scholastic rating and ability to grow with organization particularly desired. Prefer one to five years engineering experience. Salary commensurate with experience and qualifications.

All inquiries will be considered promptly and held confidential.

Letter should give full details of education, experience, salary desired, availability date and references.

ESSO RESEARCH and ENGINEERING COMPANY

(Chief Technical Subsidiary—Standard Oil Company (New Jersey))

Esso Research Center
Employee Relations—C
P.O. Box 51 Linden, N. J.

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***Experienced* in Power Distribution, Controls and Lighting in Industrial and Commercial Buildings. Interesting work in progressive consulting office, liberal benefits include: Group Insurance, Hospitalization, Vacation and Bonus Plan. Write:**

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Highway contractor expects to triple volume in short time. No time to train estimators. Need experienced man to figure and price multi-million dollar projects and deal with subs. Only the pre-eminently qualified need apply. This is an exceptional opportunity.

P-4389, Engineering News-Record,
520 N. Michigan Ave., Chicago 11, Ill.

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With at least 5 years' responsible experience in municipal and industrial waste field.

To arrange for interview phone or send resume to:

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GIBBS & HILL Inc.
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- **Structural**
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Our Metals, Refinery and Industrial Divisions offer you wide choice of opportunity to make full use of your talents, with excellent prospects for promotion to supervisory, staff and executive posts.

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You can build a strong foundation for your future with McKee. For complete information on the McKee organization and the extra benefits this company offers you write for our folder "The Key to Your Future" or contact us by telephone.

Telephone TOwer 1-2300, Cleveland, Ohio
or write to Edward A. Kolner
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Applicants should be willing to travel. An engineering degree or considerable practical experience is required. Men 35 or under preferred, but positions are not restricted to this age group. Engineers interested in challenging careers with the leading manufacturer of heavy construction equipment should send full particulars of experience and education to Mr. R. R. Haarlow, Professional Employment Co-ordinator. All inquiries will be treated on a confidential basis.

EMPLOYMENT DIVISION

CATERPILLAR TRACTOR CO.

Peoria, Illinois

GRADUATE CIVIL ENGINEERS or ARCHITECTURAL ENGINEERS

Major Southwestern general contractor needs engineers for work in estimating dept. Job requires investigation and take off and can also lead to field work depending on interest of employee. Excellent opportunity for young men to obtain desirable position with reliable firm doing all types of construction work. Have openings in El Paso, Dallas, and Los Angeles offices.

ROBERT E. McKEE

GENERAL CONTRACTOR, INC.

PO BOX 562 EL PASO, TEXAS

ESTIMATOR-ENGINEER

Permanent position available in office of long established Southern California General Contractor for Estimator with excellent references and reputation. Must be capable of complete estimate preparation. Age 25 to 35. Salary open. Send complete resume to

P-4379, Engineering News-Record,
68 Post St., San Francisco 4, California

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FOR HIGHWAY BRIDGE WORK

In New York City and New Jersey

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468 Fourth Avenue, New York City

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ENGINEERS DESIGNERS, DETAILERS and TRACERS

FOR BRIDGE WORK

HARDESTY & HANOVER

CONSULTING ENGINEERS

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FIELD ENGINEER FOR TECHNICAL SERVICE AND PROMOTIONAL WORK TO HIGHWAY ENGINEERS

Opportunity for civil engineer over 25 years old. Extensive traveling required, mostly in Minn., Wis., Iowa, Ill. Highway experience preferred.

Car supplied. Travel expenses paid. Starting salary depending upon experience.

Give full background and experience in letter to:

L. D. Dodson, *Manager*
Calcium Chloride Dept.,
WYANDOTTE CHEMICALS CORP.
Wyandotte, Michigan

CIVIL ENGINEERS

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Hydrology Investigators
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also
Mechanical and Chemical Eng'rs
For air pollution control

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San Bernardino County Civil Service
236 Third Street San Bernardino

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Capable of organizing and supervising all work for reliable, long established Southern California Company. Duties will include field employment, labor relations, planning and methods, etc. Position is permanent for qualified individual. First reply should state availability, resume, references and salary required. All inquiries will be held in confidence and acknowledged.

P-4418, Engineering News-Record,
68 Post St., San Francisco 4, Calif.

MATERIALS ENGINEER

Mature man with minimum of 10 years experience in concrete and materials.

CONCRETE INSPECTOR

Experienced in batching, mixing, placing and other phases of concrete inspection.

Required by Consulting Engineer for Toll Highway and prestressed concrete work near Chicago. Top salary, excellent working conditions.

Send resume to:

Joseph K. Knoerle & Associates, Inc.
155 North Wacker Drive, Chicago 6, Illinois

SUPERINTENDENT

To take charge of new plant located 75 miles from Chicago for large building materials company. Thorough knowledge of rotary kiln operations as applied to processing of expanded shale, cement, or burned lime, with minimum of five years supervisory experience in the field required.

Good salary, profit sharing, and other benefits.

Reply giving work history and personal background.

P-4287, Engineering News-Record,
520 N. Michigan Ave., Chicago 11, Ill.

EXPERIENCED HIGHWAY ENGINEERS

Established consulting firm in Western Illinois desirous of employing qualified personnel on permanent basis. Prefer Engineers under 35 experienced in design of highways and/or city street projects.

Reply giving full resume of experience, date available and salary requirements. Interviews will be arranged.

MISSMAN, STANLEY, FARMER & ASSOCIATES
Illinois Oil Building, Rock Island, Ill.

PLANT CONSTRUCTION

Men with construction or steel plant experience for work in Venezuela. Favorable taxes, contracts & profit-sharing.

Submit resume, expected salary.

All replies held in confidence.

P-4419, Engineering News-Record,
Class. Adv. Div., P.O. Box 12, N.Y. 36, N.Y.

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Having experience with heavy material handling equipment

Permanent Position For Qualified Men

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Phone or Write Chief Engineer for interview

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FOR OFFICE WORK IN ST. LOUIS ON HIGHWAYS EXPRESSWAYS AND ASSOCIATED CIVIL WORKS

- Permanent employment for qualified men
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Plus: Employee Benefit and Retirement Plan, Paid Vacations, Holidays, Sick Leave. Blue Cross available

Inquire as to overseas openings

PLEASE WRITE FULLY TO OR INQUIRE AT

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on Buildings and Conveyors. Long range program, good working conditions, vacation and bonus plan, liberal insurance benefits. Work in our Cleveland or Toledo office. Send complete resume of experience and qualifications to:

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Cleveland 9, Ohio

HIGHWAY AND STRUCTURAL ENGINEERS - DESIGNERS - DRAFTSMEN

Several years' experience in highway or bridge design work preferred but not necessary if educational background is good.

This firm of Consulting Engineers is anxious to employ men who desire long range permanent work, who want to develop as professional engineers and who are eager to accept ever increasing responsibility.

Please reply giving experience record to:

Besides well developed training courses the company offers vacations and holidays with pay, sick leave, blue cross, free life insurance, overtime, moving allowance, and an employee profit sharing plan.

Positions in the above categories available in permanent company offices at Chicago, New York, San Francisco, Oklahoma City, Toronto, Buffalo and Sanford, Florida.

DE LEUW, CATHER & COMPANY

150 NO. WACKER DRIVE *Engineers* CHICAGO 6, ILLINOIS

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Architectural Engineer between ages of 25 and 35 with interest in design of industrial buildings and structures.

Excellent opportunity with consulting engineering firm in Middle West. Liberal benefit plans and good working conditions.

Send resume of education and experience with statement of salary requirements to:

P-3222, Engineering News-Record
520 No. Michigan Ave., Chicago 11, Ill.

Highway & Bridge Engineers Designers & Draftsmen

Career opportunities for men interested in professional recognition. Excellent working conditions and employee benefits including liberal retirement program.

Openings in Pennsylvania, Maryland, Florida, West Virginia, Mississippi and overseas.

Air Mail Resume TO R. L. SHAW, *Personnel Director*

MICHAEL BAKER, Jr., INC.

BAKER BLDG. *Consulting Engineers* ROCHESTER, PA.

DEPARTMENT OF WATER AND SEWERS
CITY OF MIAMI
FLORIDA

CIVIL ENGINEERS: (Civil Service Positions) SALARY OPEN

Job Requirements: Design of water supply, distribution, treatment and pumping facilities, sanitary sewers, sewage pumping and sewage treatment.

Education and Experience Requirements: B. S. in Civil or Sanitary Engineering and five (5) years experience in above special fields—or—the equivalent combination of related education and experience in lieu of a degree.

Additional data will be sent to all applicants.

Send complete summary of your education and experience to: Mr. C. F. Wertz, Director, Dept. of Water and Sewers, P. O. Box 316, Miami 33, Florida.

STRUCTURAL STEEL DETAILERS AND ESTIMATORS

Have openings available for competent detailers and estimators who have had experience with steel fabricators. Please give full details in letter of application.

The MIDWEST STEEL & IRON WORKS Co.

P. O. Box 5384, Terminal Annex Sta.
Denver 17, Colorado

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Long established firm of consulting engineers with world-wide practice needs both beginners and experienced civil, electrical, mechanical, and foundation engineers for interesting work on large dams, powerplants, and river control works. Permanent positions. Liberal employee benefits. Starting salaries dependent on qualifications. Please send complete resume to Hugo Niemi, Personnel Manager.

HARZA ENGINEERING CO.

400 W. Madison St. Chicago 6, Ill.

POSITIONS VACANT

(Continued from page 108)

Building Construction Project Manager. Position of top responsibility with American contractor in South America. Applicants must be completely qualified by experience to take full responsibility for all phases of monumental type building project. Latin American experience desirable. Good salary and living conditions. Write detailed resume of experience, education, personal data, availability, and salary expected to P-4413, Engineering News-Record.

Hydraulic Engineers experienced in the supervision of design of water projects, including large diameter pipe lines, pumping stations, storage reservoirs and automatic control devices. O'Brien & Gere, 400 East Genesee Street, Syracuse, New York.

Village Engineer Village of La Grange, Ill. (pop. 15,000) One of Chicagoland's finest suburban municipalities. Supervise project engineering, zoning, planning, building regulation and traffic engineering. Civil engineering degree preferred plus several years experience. Salary Range: $525 to $660. Attractive fringe benefits. Apply to: Robert A. Finley, Village Manager, La Grange, Illinois.

Wanted: Experienced Bridge Superintendent for New Hampshire. Good opportunity for right man with a firm established over twenty years. Salary open. E. D. Swett, Inc., Winchester, N. H.

Engineer capable of layout and takeoff for Western New York Paving contractor. Reply P-4154, Engineering News-Record.

Superintendent for Western New York paving and excavating contractor. Reply P-4155, Engineering News-Record.

Wanted Soil Mechanics, concrete and asphalt inspectors and technicians. Recent graduates with soil mechanics and concrete laboratory training may apply. Openings in field and laboratory for construction contracts of highways and large engineering projects in the middlewest. Send resume to: Westville Engineering Company, Inc., P. O. Box 67, Westville, Indiana.

Senior Cost Engineer familiar with the Uniform System of Accounts for electric utilities. Duties will consist of analyzing completed major construction projects for an Electric Utility. Experience with the Federal Power Commission or a State Public Service Commission would be desirable. Some experience with the Property Record Department of any Electric Utility would also be an asset. Indianapolis Power and Light Company. Employment Department. 1220 West Morris St., Indianapolis, Indiana.

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Canadian Civil Engineer (McGill '26), specialized in municipal problems, seeks a permanent responsible position with a municipality or private concern, located in the Southern States. Excellent administrative, professional and personal background. Now employed as a free-lance municipal consultant. 54 years old. Member of the Corporation of Professional Engineers of Quebec. Full details on request. PW-4003, Engineering News-Record.

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**Semi-automatic concrete batching plant.
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Bethlehem Steel Co.	1
Bituminous Coal Institute	8
Bruning Co., Inc. Chas	37
Case Foundation Co.	56
Cast Iron Pipe Research Assn.	6, 7
Caterpillar Tractor Co.	95
Celotex Corp., The	53
Chicago Bridge & Iron Co.	2nd Cover
Chicago Pneumatic Co.	30, 31
Cleveland Trencher Co.	64
Clow & Sons Co., Jas. B.	92
Concrete Reinforcing Steel Institute	62
Dennison Engr. Div., American Brake Shoe Co.	3rd Cover
Douglas Fir Plywood Assn.	38, 39
Economy Forms Corp.	66
Enterprise Galvanizing Co.	83
Esso Std. Oil Co.	32
Foster Co., L. B.	2
Griffin Wellpoint Corp.	72
Gurley Co., W. & L. E.	58
Hughes Bros., Inc.	85
Illinois Toll Highway Comm.	85
Iowa Mfg. Co.	4, 5
Jersey Bolt & Spike Corp.	119
Johns-Mansville Corp.	81
Joy Mfg. Co.	99
Keuffel & Esser Co.	70
Lamson & Sessions Co.	18
LeTourneau Westinghouse Co.	43, 45, 57, 59
Lock Joint Pipe Co.	16
Lone Star Corp.	20
Mahon Co., R. C.	50
Maxon Constr. Co.	83
McConnaughay Co., K. E.	54
McKiernan Terry Corp.	83
National Steel Corp., Stran Steel Div.	51
Owens Corning Fiberglas Corp.	12, 13
Ozalid Prod. Div. General Aniline & Film Co.	65
Peelle Co.	72
Pioneer Engr. Works	60, 61
Pittsburgh Coke & Chem. Co.	9
Pittsburgh Steel Prod. Co.	68, 69
Portland Cement Assn.	71
St. Paul & Tacoma Lumber Co.	103
Servicised Prod. Co.	14
Sonoco Prod. Co.	46, 47
Spencer White & Prentis, Inc.	66
J. S. Staedtler Inc.	10
Steelcraft Mfg. Co.	44
Superior Concrete Accessories	88
Timken Roller Bearing Co.	4th Cover
Torrington Co.	48
Tousey Varnish Co.	100
Umeco Optical Div.	56
United States Steel Corp.	104, 105
Universal Atlas Cement Co.	11
Universal Sewer Pipe Corp.	3
Vulcan Iron Works	73
White Motor Co.	76, 77

Professional Services	**115-118**

CLASSIFIED ADVERTISING

F. J. Eberle, Business Mgr.

Employment Opportunities	108-112
Proposals	105-107
Educational	112
Equipment (For Rent, Sales Wanted)	113 114, 118
Wanted	112

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Editorials

AIA Celebrates Centennial

According to the records, the American Institute of Architects was founded on Feb. 23, 100 years ago. In celebration of the centennial, the nation's architects took a backward look last week to review the humble beginnings of their professional organization. But for the rest of the celebration period, they will face forward.

The organization started in New York City with 13 local architects inspired by Richard Upjohn, architect of Trinity Church. He was elected president and served for 19 years. With the objective of discussing and solving common professional problems, the group flourished, and chapters sprang up across the U. S. The AIA now boasts 12,000 members.

The celebration started last Saturday with the dedication of a 3-cent centennial postage stamp and installation of a commemorative plaque on the site of the Trinity Building (demolished in 1904), where the first meeting was held. The culmination will be in the week of May 14, when the AIA will convene in Washington, D. C., to peer into the future. Theme of the centennial program will be a New Century Beckons.

The convocation could well point the way to development of new concepts of building. It will be eagerly awaited; for not only construction but the whole nation has a vital stake in the progress of architecture.

Names for Asphalt Mix Types

The step taken by The Asphalt Institute to bring a large measure of uniformity into the terminology used to describe types of hot-mix asphalt paving (see p. 24) is commendable and should be supported by the state highway departments.

There is now no generally understood way for describing paving mixes. Current practice is to call them by their state specification numbers, such as Ohio T-35, Type A Mix. This description is meaningless unless one happens to know what gradations of aggregate are called for in the Ohio specification.

To end this confusion, The Asphalt Institute has developed a classification chart on which eight types of mix are outlined and given a number and descriptive name, such as "open graded." Maximum aggregate sizes and combinations for each type are given in the chart.

Obviously, many of the mixes now set up in state specifications will not fall exactly into one of these classifications. However, the engineers of the Institute believe that the departures will not be significant. Hence it should be possible for an engineer from California to give engineers from other states a clear understanding of the type of paving he specified for a particular job. For example, he could say that it is similar to one of The Asphalt Institute classifications, such as Type V fine graded, or that it departs from Type V in such and such manner.

In these days of greatly expanded highway construction, such a plan for simplification of communication among paving engineers in various parts of the country should be very helpful.

Sound Water-Power Decisions

Two government policy decisions announced in ENR last week had much in common, although one was a statement of the federal Administration and the other was an announcement applying only to New York State.

Both were rather bold decisions politically. Both had to do with the water power of multipurpose river development projects. Both favored the interests of private firms. And both decisions, while they have already drawn opposition, were decisions that should prevail and reflect to the credit of those who have made them.

The first—and foremost for its effect on national water and power policy—was the decision of the Administration to go all the way with its partnership policy in the case of the Trinity River Project in California. Interior Secretary Fred A. Seaton proposed to Congress that the offer of Pacific Gas & Electric Co. to build the power facilities of this power and irrigation scheme be accepted. Seaton's proposal, if supported in Congress, could mean a true partnership arrangement wherein private and federal funds would be brought together to accomplish local and national benefits in a multipurpose water-use project. It would be the first real partnership deal; earlier projects wherein the federal government withdrew in favor of complete local development were labeled "partnership" erroneously.

The Eisenhower Administration might have taken a less positive stand in this case on its stated policy of partnership. In view of its Election Day losses in the Northwest, where the policy was a Number One issue, there were many observers surprised at the decision made.

The second noteworthy decision was that of New York's Gov. Averell Harriman on future disposition of a big block of energy from the St. Lawrence project. With rare political pluck, the governor favored factories over farmers in upstate New York. He approved allocation of some 239,000 kw to a proposed Reynolds Metals Co. plant in St. Lawrence County, after General Motors proposed building a casting plant as one satellite in what eventually could be a large industrial complex. (Alcoa is already there.)

All of New York State should profit from the new jobs this allocation of St. Lawrence power will create.

Both of these policy decisions should be implemented. Fruition of the construction they involve is important for the present, and their bearing on power development and distribution is significant for the future.

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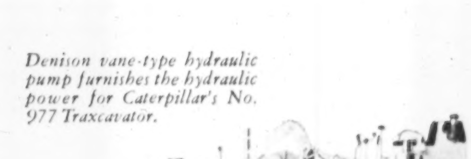

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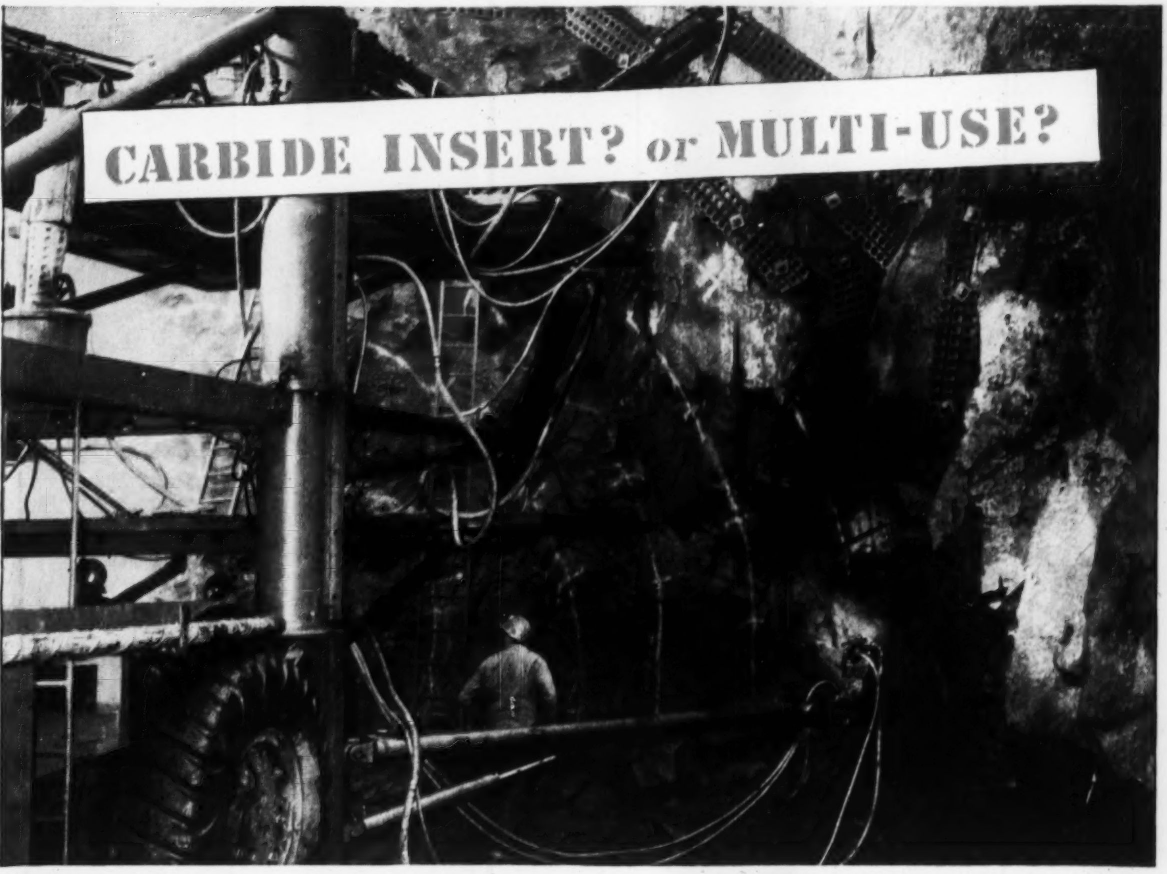

LOCATION: Mayfield Dam site, near Saukum, Washington. **OPERATING CONDITIONS:** Medium blocky basalt.

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